

# Outlook

 Washington  
University in St. Louis  
SCHOOL OF MEDICINE

INPATIENT CARE

CME PROGRAM

CANCER OUTREACH

FALL 2002



**Battling  
Bone Disease**



**White Coat Welcome** First-year medical students Daniel Liu, Guy Bizek, Terri McMillan and Amy Sheldahl exchange handshakes and hellos following the annual White Coat Ceremony held on August 16, 2002, at the Eric P. Newman Education Center. The yearly event, during which members of the incoming medical school class don their symbolic white "doctor" coats and together take an oath of professionalism, caps a week of orientation activities.

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# Outlook

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*See page 36*

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## Class Notes Update Yourself!

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2002!

# *Seeking Fixed Income?*

See page 36


 Washington  
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# Class Notes

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## Update Yourself!

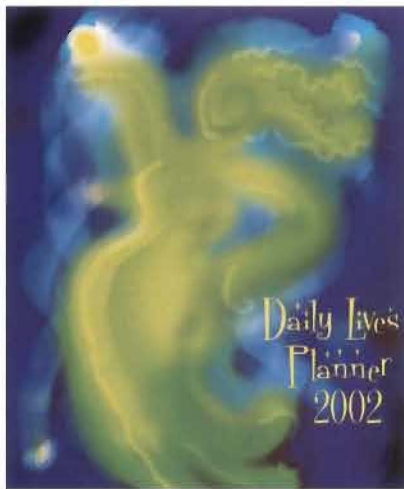
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on page 36.

 Washington  
University in St. Louis  
SCHOOL OF MEDICINE

# Outlook

Washington University School of Medicine  
VOLUME XXXIX • NUMBER 3 • FALL 2002

**COVER** Michael P. Whyte, MD, professor of medicine, pediatrics and genetics, with young patient Brianna Seay. Whyte directs the Center for Metabolic Bone Disease and Molecular Research at Shriners Hospitals for Children-St. Louis and is one of more than 60 School of Medicine physicians and surgeons who provide care at Shriners. For more on this story, please turn to page 8. Photo by Robert Boston.



**13** Committed, personalized cancer care with a focus on prevention

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**17** Hospitalists at Washington University Medical Center are trained to meet the needs of the inpatient population



## WU physicians among best in America

**W**ashington University School of Medicine is home to some of America's finest doctors, according to a recently released directory of leading physicians in the United States and Canada.

*America's Top Doctors*, published by Castle Connolly Medical Ltd., includes 88 Washington University physicians at Barnes-Jewish and St. Louis Children's hospitals.

Physicians were selected for inclusion in the directory through a nomination process in which doctors were asked to whom they would recommend friends and family members seeking medical care.

After extensive research, interviews and correspondence, 4,254 physicians were selected from more than 20,000 candidates.

## Molecular imaging center opens

A FIVE-YEAR, \$9.4 MILLION GRANT from the National Cancer Institute has been awarded to David R. Piwnica-Worms, MD, PhD, professor of radiology and of molecular biology and pharmacology, to establish a molecular imaging center at the School of Medicine.

Molecular imaging, a newly emerging area of medicine, is an outgrowth of the field of radiology. Whereas radiology is the imaging of tissues, organs or the entire body to detect disease, molecular imaging works at the level of cells, genes and proteins by detecting changes in how proteins or other molecules are processed, or metabolized, by cells.

"The goal of the School of Medicine's molecular imaging center is to translate the knowledge gained from molecular and genome research into improved care for cancer patients," says Piwnica-Worms, who will direct the center.

"We want to combine the latest imaging technologies with the power of molecular biology."

Investigators involved in the new molecular imaging center will come from a variety of medical disciplines, including molecular biology, molecular imaging, chemistry and clinical science.



David R. Piwnica-Worms, MD, PhD

## Johnston, Wilson to lead department of genetics, genome sequencing center

NEW LEADERSHIP has been announced for the Department of Genetics and the Genome Sequencing Center at the School of Medicine.

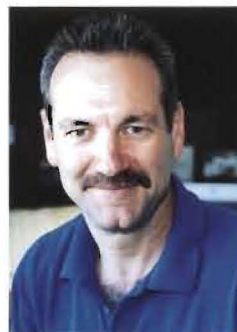
Mark Johnston, PhD, professor of genetics, has been named interim head of the Department of Genetics, and Richard K. Wilson, PhD, associate professor of genetics and of molecular microbiology, has been



Mark Johnston, PhD

named director of the Genome Sequencing Center. Both succeed Robert H. Waterston, MD, PhD, who is leaving the university in January 2003 to head the Department of Genome Sciences at the University of Washington School of Medicine in Seattle.

Under Waterston's leadership, the medical school's Genome Sequencing Center has become one of the world's leading DNA sequencing centers. The group also has played a key role in the Human Genome Project.



Richard K. Wilson, PhD

Johnston joined the faculty in 1983 as an assistant professor of genetics. In 1996, he led a team of Washington University investigators as part of an international effort to decipher the genetic structure, or genome, of baker's yeast. The work was done in collaboration with the medical school's Genome Sequencing Center and was the largest sequencing project up to that time.

Wilson, a co-director of the Genome Sequencing Center, joined the university in 1990. He has played a significant role in the mapping and sequencing of both the human and mouse genomes and also led the team that sequenced and mapped the genome for the bacterium *Salmonella typhimurium*, a leading cause of food poisoning.

In addition, Wilson led the Washington University team in the Arabidopsis Genome Initiative, an international multicenter effort to decipher the DNA structure of the flowering mustard, *Arabidopsis thaliana*, the first plant genome to be mapped.

## Ludmerer among elite group elected to American Academy of Arts & Sciences

AS A NEWLY ELECTED FELLOW of the American Academy of Arts & Sciences, Kenneth M. Ludmerer, MD, joins a distinguished group of some 4,000 individuals nationwide who have been recognized for their outstanding contributions to science, scholarship, public affairs and the arts.

Ludmerer, professor of medicine and of history in Arts & Sciences, is an expert on the history of medicine and medical education. He first gained national attention in 1985 with his book, *Learning to Heal: The Development of American Medical Education*, an

examination of the history and development of medical education in the United States.

His latest book, *Time to Heal: American Medical Education from the Turn of the Century to the Era of Managed Care*, published in 1999, expands on the topic, examining further the history of American medical education. Both books were nominated for the Pulitzer Prize.

Ludmerer currently practices and teaches internal medicine. In April 2002, he was elected president of the American Association for the History of Medicine.

### CANCER ETIOLOGY

## Cell phone use not a likely cause of brain or other cancers

**R**adiation from cell phones doesn't appear to cause cancer in rats, according to a study by investigators at the School of Medicine.

In research that is the first of its kind, the Washington University team exposed rats to the two most common types of cell phone radiation for four hours a day, five days a week over a two-year period.

"We tried to mimic a high level of exposure that humans might experience," says study leader Joseph L. Roti Roti, PhD, professor of radiation oncology, of biochemistry and molecular biophysics, and of cell biology and physiology. "We found no statistically significant increases in any tumor type, including brain, liver, lung or kidney, compared to a control group."

For more than a decade, a public debate has raged as to whether cell phone radiation causes cancer, particularly brain cancer. Roti Roti's long-term, industry-funded study was undertaken to address that question. The research examined whether chronic exposure to radio frequency (RF) radiation at two common cell phone signals caused brain tumors in rats.

The study used 480 male and female rats. One third of the animals were exposed to an analog cell phone frequency, one-third to a digital frequency, and the remaining rats served as controls, receiving no radiation.

After two years and a total of 505 days of exposure, the brain, spinal cord and other organs from each animal were studied microscopically for signs of cancer.

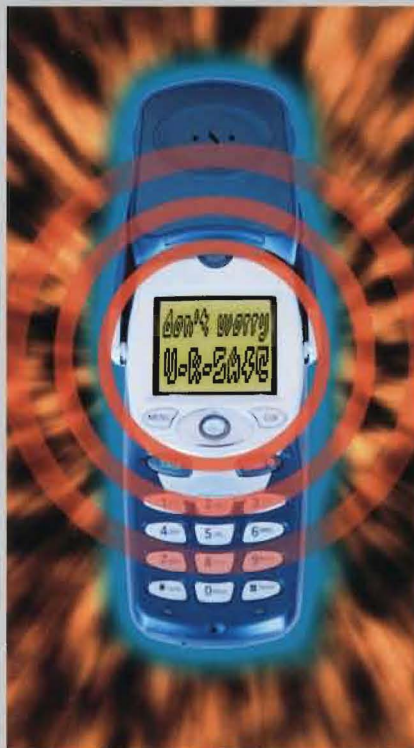
"We looked specifically for brain and spinal cord tumors," says Marie C. La Regina, DVM, a veterinary pathologist with the university's division of comparative medicine and lead author on the study.

"We examined 20 to 25 sections from each brain microscopically, which is more than is usually done when studying potential cancer-causing agents. We didn't want to miss anything."

The investigators also looked for tumors in nearly 30 other tissues. They found no statistically significant increases in any tumor type. They also found no differences in weight or mortality between exposed and control animals over the course of the experiments.

The study builds on research begun by Roti Roti in 1995. In his earlier work, he exposed laboratory-grown cells to cell phone radiation and studied the cells for genetic damage, gene expression and neoplastic transformation. Those experiments also showed no effect from the exposure.

"As far as I can tell from the work so far," says Roti Roti, "the greatest hazard with cell phones is driving a car while talking on one."



ERIC YOUNG

## Center for Aging partners with local group to study needs of older Americans

THE UNIVERSITY'S CENTER FOR AGING is collaborating with the Jewish Federation of St. Louis to investigate naturally occurring retirement communities.

The Jewish Federation received \$1.3 million from the Department of Health and Human Services for the pilot project, the largest of five grants awarded nationally for this type of research.

The program's mission is to find ways to help aging Americans spend their senior years in their own homes with the help of support services such as transportation, health and human services, and home modifications. Many apartment buildings and neighborhoods have

naturally evolved into retirement communities, including an area of Creve Coeur that includes 1,500 residents older than 65. The Jewish Federation and the Center for Aging plan to use the grant money for research projects and to improve outreach services to this community.

"By partnering in this project, we can begin to understand what elders themselves perceive as important opportunities to remain productive in their communities, which will help us plan larger, long-term studies to address these issues" says John C. Morris, MD, director of the Center for Aging and the Harvey A. and Dorismae Hacker Friedman Professor of Neurology.

### IMMUNOLOGY

## Researchers discover how herpes 'tricks' the immune system

**H**erpes viruses enter the body and then hide away in cells, often re-emerging later to cause illnesses such as shingles, genital herpes and cancer. Just how these viruses evade the immune system remains poorly understood, but researchers at the School of Medicine have discovered that a mouse herpes virus uses molecules that mimic a cell's own proteins to help thwart an immune attack.

The findings also suggest that a branch of the immune system known as the complement system may play a more important role in controlling herpes virus infections than previously thought. The study is published in the August issue of the journal *Immunity*.

"These findings reveal another molecular mechanism by which viruses evade the immune system," says study leader Herbert W. Virgin, MD, PhD, professor of pathology and immunology and of molecular microbiology. "By targeting this viral protein or by manipulating the complement system, perhaps someday we can develop better treatments for herpes virus infections."



A herpes virus, imaged here in red, lurks within the cellular membranes surrounding the brain of a mouse.

The complement system consists of about 20 proteins that are transported in the bloodstream. When activated by certain disease-causing organisms, the proteins unite to kill viruses and virus-infected cells. To prevent the inadvertent and dangerous triggering of the complement reaction, healthy cells produce molecules known as regulators of complement activation (RCA).

Virgin's team found that one type of herpes virus in mice, gamma-herpes virus 68 (gHV68), makes its own version of RCA

to trick the immune system and evade destruction by complement. In addition, the RCA mimic proteins help the virus only during acute infection.

In the study, the team engineered a mutant strain of the gHV68 mouse virus that lacked the RCA mimic protein. They compared the effects of the normal virus and the mutant virus on normal mice versus mice that lacked a key complement protein, C3.

The researchers found that viruses lacking an RCA mimic were far less virulent than the normal virus. The mutant virus also grew more slowly than normal, and it failed to spread to other organs during acute infection, showing that the RCA mimic proteins were necessary for the virus to thrive.

Next, the researchers tested the mutant virus in mice lacking C3. In this case, the mutant virus was just as virulent as normal viruses in normal mice. Without C3 in the infected animal, the virus did not need to disguise itself with RCA in order to thrive, implying that in normal mice, the mimic protein enabled the virus to escape detection by the complement system.



## Gray is associate dean for faculty affairs

DIANA L. GRAY, MD, associate professor of obstetrics and gynecology and of radiology, has been named associate dean for faculty affairs.

In her new position, Gray will collaborate with department heads and faculty to achieve a consistent, supportive working environment and to assure equitable compensation and promotion policies to sustain outstanding researchers, clinicians and teachers.



Diana L. Gray, MD

By overseeing annual reviews, Gray will ensure that junior faculty receive the appropriate mentoring essential for long-term professional development. She also will maintain and distribute policies to faculty and represent the School of Medicine at relevant committees and conferences.

## Galvin receives three awards

THREE AWARDS HAVE BEEN BESTOWED on James E. Galvin, MD, assistant professor of neurology, in recognition of his research on Lewy body dementia, the second most common form of dementia after Alzheimer's disease.

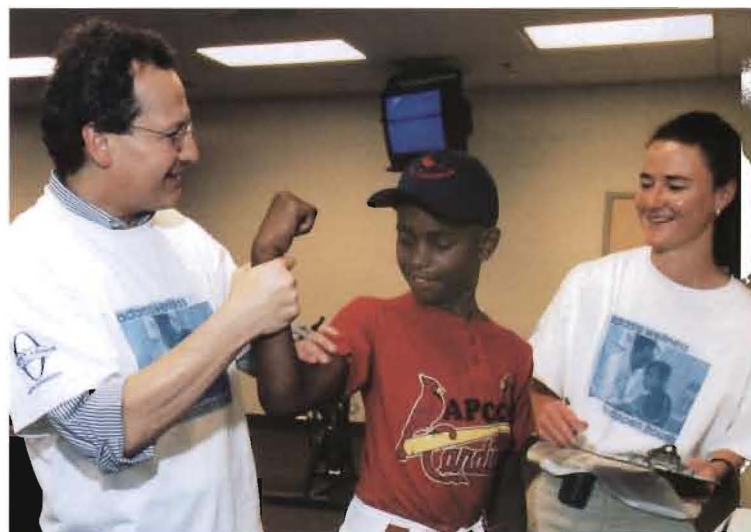
Galvin received the Alene and Meyer Kopolow Award from the Barnes-Jewish Hospital Foundation in recognition of exemplary achievement in geriatrics by junior faculty or trainees.

Galvin also was awarded the Paul Beeson Physician Faculty Scholars in Aging Research Award, which provides \$450,000 over three years to young physician-scientists. The program is administered by the American Federation for Aging Research and the Alliance for Aging Research, and is dedicated to encouraging outstanding young clinicians to continue aging research, patient care and teaching.



James E. Galvin, MD

In addition, Galvin received a three-year, \$450,000 Mentored Clinical Scientist Development Award from the National Institutes of Health to investigate the clinical and pathological features of Lewy body dementia.



**Muscle Man** Samuel Klein, MD, the Danforth Professor of Medicine and Nutritional Science and director of the School of Medicine's Center for Human Nutrition, and research coordinator Jennifer McCrea offer health and nutrition tips to 10-year-old Van Carter at the Adams Park Elementary School Wellness Fair held on August 22, 2002. In addition to promoting good nutrition, the fair provided exercise and physical activity tips and safety information for parents and children of the Forest Park Southeast neighborhood.



## Sesquicentennial website on-line

Washington University in St. Louis will celebrate its sesquicentennial anniversary during the 2003-2004 academic year. Visit [150.wustl.edu](http://150.wustl.edu) to learn more about 150th news and events.



*Treasuring the Past,  
Shaping the Future*



**Learning at the bench** Chrystal Jenkins, who recently earned a bachelor's degree in biology in Arts & Sciences at Washington University, worked in the laboratory of Brian P. Hackett, MD, PhD, associate professor of pediatrics, over the summer break. Jenkins is one of 16 budding scientists from the university and area high schools who spent their vacations learning the fundamentals of basic science research in the Department of Pediatrics' Developmental Biology Research Unit.

## Faculty Practice Plan issues statement of mission, vision and core values

A new mission, clinical vision and core values statement has been approved by the Faculty Practice Plan (FPP) board of directors. Effective July 11, 2002, the revised statement reflects changes in the clinical environment

and in the standing of the School of Medicine's clinical practice.

The statement is intended to provide School of Medicine physicians and staff with an enduring framework to guide daily actions and future decision making. The FPP's clinical vision includes the goal of setting "a new standard for delivering compassionate, respectful and responsive patient care," and it also contains

a list of core values, including quality, respect, integrity, discovery, education, partnership and professionalism.

A full version of the new FPP statement is available on the Web at [wuphysicians.wustl.edu/missionstatement](http://wuphysicians.wustl.edu/missionstatement).

**The FPP's clinical vision includes setting "a new standard for delivering compassionate, respectful and responsive patient care."**

## Waksman named Vagelos Professor

GABRIEL WAKSMAN, PHD, has been named the first Roy and Diana Vagelos Professor of Biochemistry and Molecular Biophysics at the School of Medicine.

The professorship was established by P. Roy Vagelos, MD, and his wife, Diana, in honor of William H. Danforth, MD, chancellor emeritus and vice-chairman of the Board of Trustees of Washington University and his wife, Elizabeth.

Vagelos headed the Department of Biological Chemistry, now the Department of Biochemistry and Molecular Biophysics, from 1966 through 1975. He also founded the Division of Biology and Biomedical Sciences, a doctoral program that encourages interdisciplinary faculty interactions and provides educational opportunities in the biological sciences that span the School of



**Gabriel Waksman, PhD**

Medicine and Hilltop campuses. Diana Touliatou Vagelos is a former trustee of Barnard College and an overseer at the University of Pennsylvania Museum.

Internationally known for his work in X-ray crystallography, a technique used to obtain 3-D structures of proteins, Waksman is particularly interested in protein interactions and how they affect protein conformation.

Waksman heads the protein structure and macromolecular graphics core for the Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine. He also is the co-principal investigator for the Midwest Center for Structural Genomics.

## New program for women with HIV

"FAITH IN ACTION" is the latest service for HIV-infected women offered by the School of Medicine's Helena Hatch Special Care Center. The new program pairs volunteers from community churches with women who have AIDS to assist them with household chores, errands, transportation and other tasks. The volunteers also provide encouragement and support through regular visits and telephone calls.

"We are extremely pleased to be part of the Faith in Action network and to offer this help," says Linda M. Mundy, MD, assistant professor of medicine and director of the Helena Hatch Special Care Center.

## Fly study provides insight into how the body tells time

**Y**ou may feel different at 4 a.m. than you do at 4 p.m. Now researchers might understand why. A new School of Medicine study explains how genes dictate our biological clock.

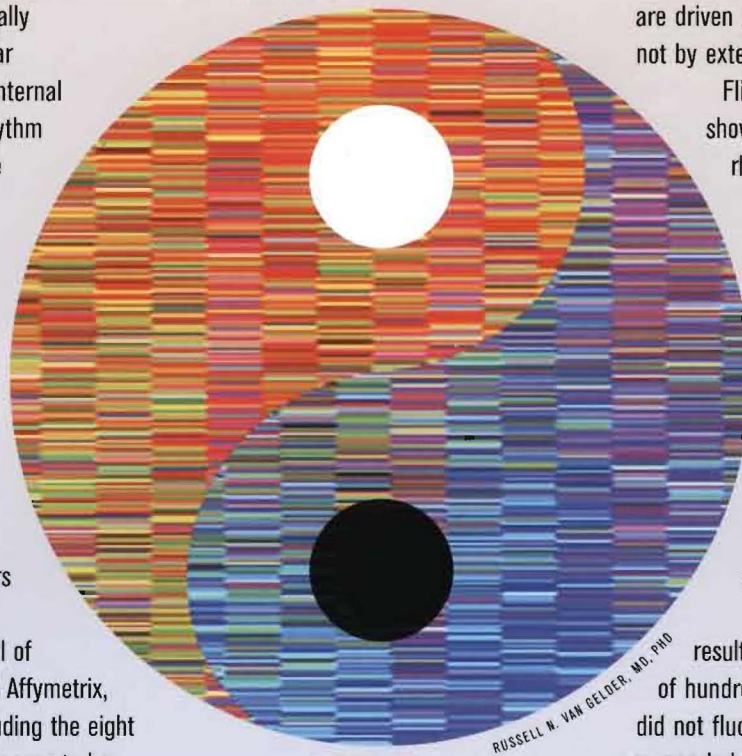
Most living things have a natural rhythm that influences behavior and physiology. This rhythm typically is "circadian," following a near 24-hour cycle. Driven by an internal clock, a creature's natural rhythm is synchronized to the outside world by external cues, like the sun.

To date, eight genes have been discovered to be essential to the operations of this clock. Scientists believe that these genes also influence the expression of other genes throughout the body in order to control the timing of behaviors like sleep and wakefulness.

Researchers at the School of Medicine, in collaboration with Affymetrix, have identified 22 genes (including the eight core clock components) that appear to be rhythmically regulated by the internal clock of the fruit fly *Drosophila melanogaster*. They also found hundreds of additional genes that are regulated by both light and the internal clock. The study appears in the June 24, 2002 issue of the *Proceedings of the National Academy of Sciences*.

"Understanding how our internal environment responds to our innate biological clock could help us develop better ways of adjusting to challenging circumstances, like unusual work shifts or jet lag following a long journey," says lead investigator Paul H. Taghert, PhD, professor of anatomy and neurobiology.

In the research, DNA microarrays—comprehensive lists of all active genes in a tissue sample—were used to measure expression levels of nearly 14,000 genes at various time-points in the heads of normal flies and in flies missing one of the clock genes, called *period*.



**The night/day rhythms of gene activity are revealed in microarray data. This stylized comparison illustrates high gene expression (red) and low gene expression (blue).**

All flies were exposed to light for 12 hours, followed by dark for 12 hours. The cycle continued for a total of 96 hours. Genetic analyses were performed on half of the flies at six different time-points on the fifth day.

The remaining flies were transferred into complete darkness for 48 hours. The team then again analyzed gene expression at each of six time-points.

Between 72 and 200 of *Drosophila*'s 14,000 genes showed significant rhythms of gene expression in normal flies living in a daily light-dark cycle. Of these genes, 22 continued to fluctuate when flies were collected after three days of complete darkness. This implies that these 22 genes are driven by the internal, circadian clock, not by external cues such as light.

Flies lacking the *period* gene showed 18 genes with persistent, rhythmic oscillations, demonstrating that light and dark can drive rhythmic gene expression.

The remaining oscillating genes only fluctuated rhythmically in animals that still had the *period* gene and that were exposed to light and dark conditions. The biologic functions of most of these oscillating genes are unknown.

One of the most surprising results of the study was the discovery of hundreds of genes with levels that did not fluctuate with time of day, but responded drastically to different lighting conditions or to the presence or absence of a circadian clock.

"The fly's ability to regulate a large fraction of its genes depending on a combination of day length and the circadian clock gives us an attractive model for understanding seasonal timekeeping," says study co-author Russell N. Van Gelder, MD, PhD, assistant professor of ophthalmology and visual sciences. "Defects in seasonal timekeeping are thought to be related to seasonal affective disorder (SAD), in which individuals experience recurrent depression during the short days of winter."

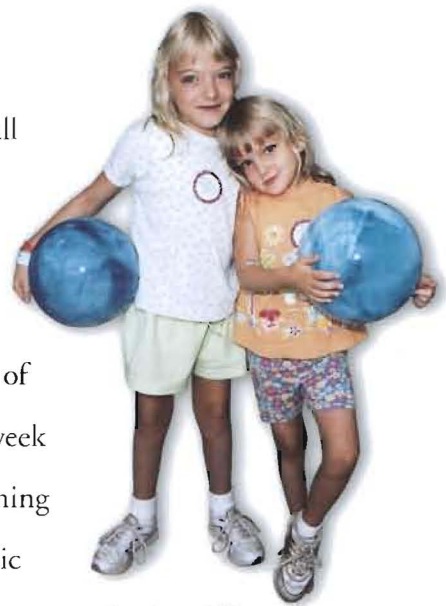


Michael P. Whyte, MD, examines patient Bryan Stearns.

S H R I N E R S   H O S P I T A L S — S T . L O U I S  
.....  
W U S M   P H Y S I C I A N S   &   R E S E A R C H E R S

# skeleton

**THERE WAS NO REASON FOR CONCERN** when Michelle Hall arrived at the first neonatal checkup for her seemingly healthy newborn daughter, Brooke Bowen. But the pediatrician was puzzled: Despite Brooke's healthy appetite, she was inexplicably losing weight. The infant was rushed from the family's hometown of Dry Ridge KY to Children's Hospital in Cincinnati OH. After a week of tests and diagnostic research, the Ohio doctors reached an alarming conclusion: Brooke had a rare—and so far, untreatable—metabolic bone disease called hypophosphatasia.



**Brooke and Cierra Bowen**

**Children with disabling bone and mineral diseases get needed support and specialized care through this research-oriented collaboration.**

**BY GILA Z. RECKESS**

Much is now known about hypophosphatasia, a disorder that affects bone development and mineralization. The Cincinnati doctors decided to contact researcher Michael P. Whyte, MD—a leader in the field of bone and mineral disease—whose name appeared on the publications they referenced spanning the past 25 years. Whyte, professor of medicine, pediatrics and genetics at the School of Medicine, is affiliated with Shriners Hospitals for Children-St. Louis, an institution dedicated to caring for the special needs of children with skeletal disease. Soon, Whyte was consulting regularly with Brooke's doctors about her condition.

Whyte is the medical-scientific director of the Center for Metabolic Bone Disease and Molecular Research at Shriners. He is one of more than 60 School of Medicine physicians and surgeons who provide clinical care at Shriners. The Washington University staff's surgical and medical expertise, coupled with the Shriner organization's commitment to providing free care to children with orthopaedic deformities and diseases, has built the reputation of Shriners Hospitals for Children-St. Louis as one of the leading facilities of its kind—particularly for unusual, difficult cases like Brooke's.

# crew



Shrine members Russell Gray, Harold Currey, Dennis Lindsay, Charles Scates and Fred W. Ruegg with pediatric patient Edwin Keith Weston Jr.

## advancing care for kids

Shriners Hospitals for Children is the official philanthropy of the Shrine of North America, an international fraternity of approximately 500,000 members. The 22 Shriners Hospitals for Children located throughout North America, funded entirely by the Shriners and heavily reliant on volunteer efforts of individual Shrine members, are dedicated to the care of children with bone diseases, burn traumas and spinal cord injuries. Shriners Hospitals for Children-St. Louis, once located on what is now part of the School of Medicine campus, specializes in orthopaedic surgery, serving Missouri and eight surrounding states.

“Shriners Hospital and Washington University share a similar mission—to provide the highest quality care in a compassionate way,” says Carolyn Golden, administrator for Shriners Hospitals for Children-St. Louis. “Our common commitment to state-of-the-art care and research is what has made the bond between the two institutions so tight for nearly 80 years.”

Washington University physicians have been the primary source of medical care at Shriners Hospitals for Children-St. Louis since its inception in 1924 and have been formally in charge of staffing the facility since 1976.

“St. Louis’ Shriners Hospital is a major provider of pediatric orthopaedic care in the central Midwest and, without a doubt, is a leader in the advancement of care for kids with a variety of conditions,” says Perry L. Schoenecker, MD, Shriners’ chief of staff and School of Medicine professor of orthopaedic surgery. According to

Schoenecker, who also is acting head of pediatric orthopaedics at St. Louis Children’s Hospital, Shriners is an acknowledged pioneer in pediatric orthopaedic care.

Shriners also has long recognized the importance of research. Because its staff treats unusual and often difficult skeletal disorders, it serves as a unique resource for Washington University physicians and surgeons to investigate innovative solutions to childhood bone disorders.

In 1981, the late Louis V. Avioli, MD, former director of the division of bone and mineral diseases and founder of the American Society for Bone and Mineral Research, convinced the Shrine’s board of directors to dedicate an entire hospital wing to the pursuit of researching rare, heritable bone metabolism disorders.

Whyte then designed the Center for Metabolic Bone Disease and Molecular Research, which has developed an international reputation, attracting patients from 43 states and from countries as far away as Kuwait, Albania and Australia. The center is the only inpatient facility in the United States exclusively dedicated to diagnosing, treating and researching pediatric metabolic bone diseases and skeletal dysplasias.

That means that children like Brooke Bowen with any of more than 100 rare metabolic bone disorders can participate in and benefit from research done at the center. Brooke and others under Shriners’ care periodically visit St. Louis for as long as a week so that researchers can monitor their progress and collect data in a precisely controlled environment.

“The dedication of Drs. Whyte and Avioli to the science of bone biology and to bench-to-bedside research engenders the community support and national recognition that permit the development of this truly unique research, training and clinical resource in St. Louis,” says Dwight A. Towler, MD, PhD, director of the division of bone and mineral diseases and associate professor of medicine and of molecular biology and pharmacology. “Ongoing support provided by Shriners Hospital, the Barnes-Jewish Hospital Foundation, the Department of Medicine and the National Institutes of Health ensures that our division can remain true to this mission of improving skeletal health.”

**“Our common commitment to state-of-the-art care and research is what has made the bond between the two institutions so tight for nearly 80 years.”**

**CAROLYN GOLDEN  
SHRINERS HOSPITALS—  
ST. LOUIS**

## Juvenile Paget's disease: a "flip side" of hypophosphatasia

**W**hereas hypophosphatasia is characterized by abnormally low levels of alkaline phosphatase, children with hyperphosphatasia, or juvenile Paget's disease (JPD), have too much of the enzyme in their bodies.

Only about 40 children worldwide have been diagnosed with JPD, a painful skeletal disease characterized by abnormally fast formation and breakdown of bone throughout the body.

By separately tackling genetic, patient-oriented studies and cellular research, two School of Medicine research teams have discovered—almost simultaneously—two distinct causes of JPD.

In the clinically motivated study, published in the July 18, 2002 issue of the *New England Journal of Medicine*, Michael P. Whyte, MD, Steven Mumm, PhD, and colleagues identified the first genetic cause of JPD.

The researchers found that two seemingly unrelated Navajo Americans with juvenile Paget's disease were completely missing the gene for a recently discovered protein called osteoprotegerin, known to protect bone.

Using information from the Human Genome Project, the team also was able to pinpoint exactly where DNA had broken off in both patients. The results were identical for the two patients studied.

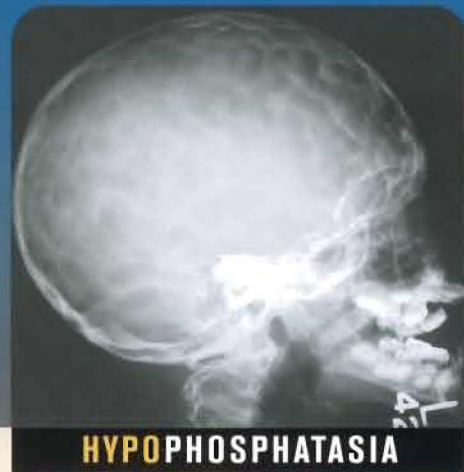
In a separate animal study led by F. Patrick Ross, PhD, research professor of pathology and immunology, researchers discovered a mouse model of JPD. Those results appear in the September 2002 issue of *Nature Medicine*.

Mice engineered to lack the gene for SHIP (Src homology 2-containing inositol-5-phosphatase) have abnormally high numbers of macrophages, a type of immune cell. Because macrophages can develop into osteoclasts (cells that break

### Two heritable bone disorders, extremely different levels of one enzyme



**Alkaline phosphatase: Too much? Too little? The skull of a teenager with juvenile Paget's disease has markedly thickened, left. Painful headaches can result; cranial nerves are endangered.**



**The plates in the child's skull at right fused prematurely. The no longer expanding skull has the dimpled appearance of hammered copper—considered to be the impressions of the still-growing brain inside. Cranial surgery enables expansion.**

down bone), the team hypothesized that mice lacking SHIP may eventually develop symptoms similar to JPD.

They were right. The mice had twice as many osteoclasts as normal mice, and the cells were much larger than normal. When the team examined cell samples in petri dishes, macrophages from mice lacking SHIP not only rapidly developed more osteoclasts than normal, the osteoclasts also lived longer. Moreover, they broke down bone much faster than normal osteoclasts. In other words, these cells looked suspiciously similar to osteoclasts in people with JPD.

With too many enlarged osteoclasts, the mice had shorter, less thick bones, lost about 22 percent of their bone-mineral density, and were far more susceptible to bone fractures: again, all hallmarks of juvenile Paget's disease in humans.

In summary, absence of either osteoprotegerin or SHIP leads to enhancement of the same signaling pathway, which is central to the formation and function of osteoclasts. These findings suggest that a common mechanism may mediate several forms of a devastating bone disease.

The two groups believe their complementary findings provide valuable insights into the process of bone formation and breakdown, and that these lines of research may ultimately lead to new treatments for a variety of metabolic bone diseases.

Steven L. Teitelbaum, MD, the Wilma and Roswell Messing Professor of pathology and immunology, says: "These two studies highlight the successful marriage between clinical and basic science in bone research groups at Washington University School of Medicine."



Steven Mumm, PhD, in the laboratory with Ladue High School senior Stefanie Wiegand, left, and research technician Sara Obrecht.

## Looking for root causes

While Whyte currently monitors Brooke, now 9, treating any complications and gathering data on her disease, researchers at the Center for Metabolic Bone Disease and Molecular Research have identified the underlying cause of this rare disorder. Since 1985, in collaboration with molecular biologists, the precise genetic cause of hypophosphatasia has become understood.

Hypophosphatasia is characterized by abnormally low levels of alkaline phosphatase in blood and bone cells. A deficiency of alkaline phosphatase causes poorly mineralized bones and skeletal deformities. It also can lead to the accumulation of phosphates, calcium and other chemicals in the bloodstream and kidneys, sometimes resulting in renal failure.

The most severe form of hypophosphatasia affects about one in every 100,000 newborns, half of whom die from the condition within six months. The disease's milder forms, such as Brooke has, are more common. Different mutations in the gene that encodes alkaline phosphatase explain some of the disorder's variability.

Separately, in the mid-1980s, Whyte and colleagues including those at Shriners discovered that patients with hypophosphatasia have abnormally high levels of vitamin B6.

"We took advantage of that discovery to gain a better understanding of how alkaline phosphatase works,"

explains Whyte. "Now we can translate that knowledge to devising medical treatment."

His Shriners team now is testing a way of elevating alkaline phosphatase levels in

Brooke and other patients with hypophosphatasia by adjusting their dietary phosphate levels.

Because hypophosphatasia and most other diseases under investigation at the center are hereditary, other exciting information comes from genetic research.

Thanks to the Human Genome Project (accomplished in part at the School of Medicine) and the efforts of the center's molecular biologist, Steven Mumm, PhD, research assistant professor of medicine, Whyte's team already has identified genetic mutations responsible for a number of bone metabolism diseases.

Studying Brooke's genes could prove particularly interesting in light of the most perplexing thing about her condition: Her 6-year-old sister, Cierra, has the exact same molecular defect and the same levels of blood alkaline phosphatase as Brooke. But, while Brooke has a wobbly, stiff-legged walk and skeletal deformities in her skull, Cierra barely shows any symptoms.

The difference between sisters suggests that something more than the already identified molecular and metabolic defects accounts for the variable severity of hypophosphatasia. Mumm, Whyte and Towler plan to scrutinize other aspects of the girls' DNA to determine just what this might be.

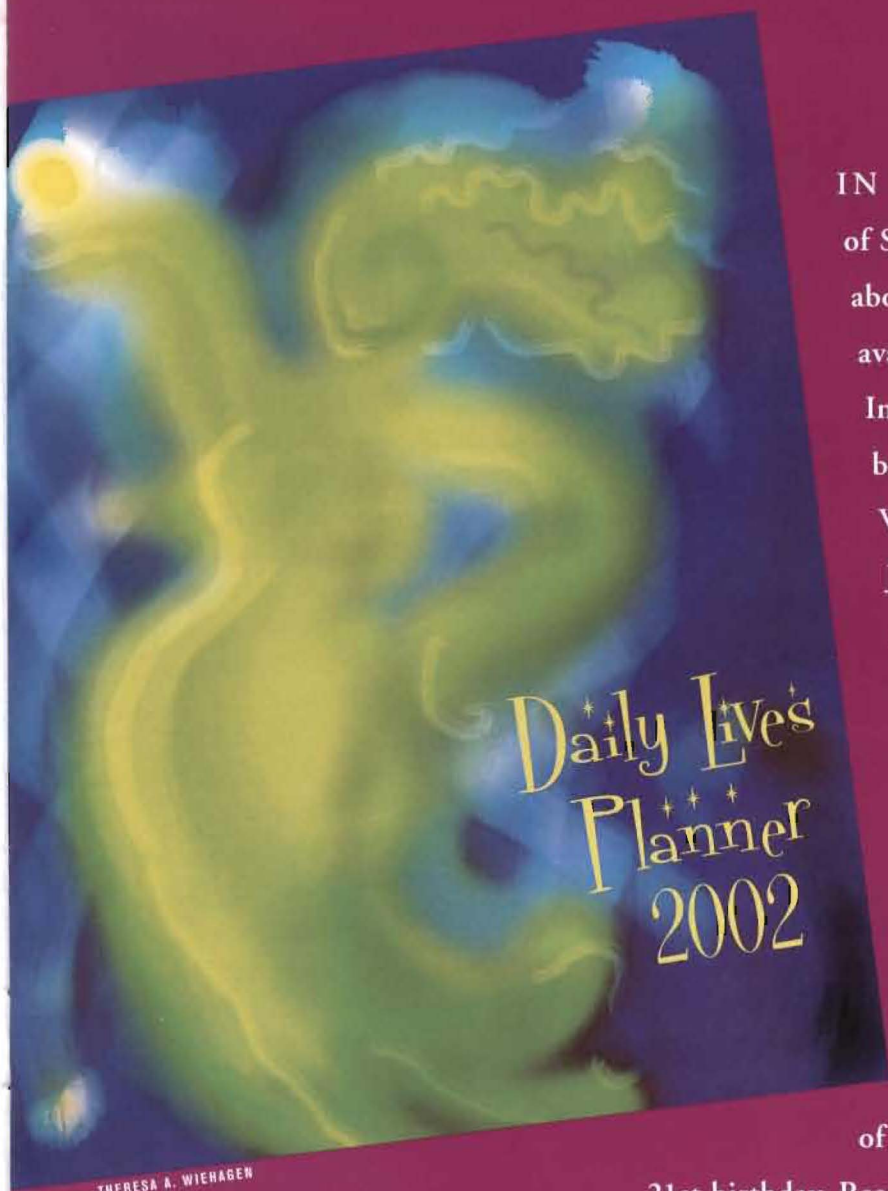
Their dedication is what mom Michelle Hall appreciates the most: "It's wonderful to know the doctors are looking for treatments and may one day find a cure for children like Brooke." □





# HEALING Body & Soul

*Siteman Cancer Center outreach programs  
bring committed care to the community*



**BY CANDACE  
O'CONNOR**

IN MAY 2001, Deborah Dixon of Shiloh IL, saw a television report about a new *Daily Lives Planner*, available free to Metro East women. Intrigued, she ordered one—and before long it had changed her life. With its artwork from the Jackie Joyner-Kersey Boys and Girls Club and “power passages” from the Eugene B. Redmond Writers Club of East St. Louis, it was appealing, colorful; it also was packed with information about breast cancer screening and prevention.

Dixon had already had a personal brush with cancer: Her daughter, Montrice, died of leukemia in 1992, just before her 21st birthday. Reading the planner now reminded Dixon that she herself had not had a physical since Montrice was born, 30 years before.



Deborah Dixon, right, convinced niece Jamie Williams of the benefits of better health care.

So Dixon went to see a doctor, who was stunned when he heard how long it had been. "He said, 'We're going to give you the presidential physical, and check everything out,'" she recalls. "It was the first breast exam I had ever had in my life." Luckily, that exam was normal. But Dixon has since become a "health evangelist," sending planners out to all her friends. "And I know that I will never, ever, not be under the care of a doctor again," she says.

**That's the kind of testimonial** M. Katherine Jahnige, MD, MPH, assistant professor of obstetrics and gynecology, likes to hear. In collaboration with a community advisory board and the St. Louis University School of Public Health, she developed and published the planner, with funding from the Susan G. Komen Breast Cancer Foundation. It is one of several promising new programs recently undertaken by the Alvin J. Siteman Cancer Center of the School of Medicine and Barnes-Jewish Hospital that target underserved and uninsured patients, mostly from the African-American community.

As Siteman's first community outreach coordinator, hired in 2000, Jahnige stands at the center of this effort in a job that cuts both ways. On the Siteman side, she is working with medical faculty and staff to improve access to screening and treatment for needy patients; on the community side, she is forging relationships, building trust, urging people to take advantage of Siteman's cancer-related resources.

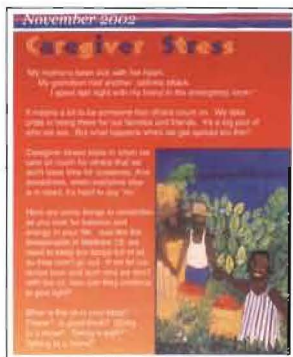
Sometimes that means confronting barriers, such as cultural beliefs about breast cancer: "It's a death sentence." "It's all in God's hands." It also means dealing with deep-seated suspicions of any hospital that was part of the segregated era of health care.

"People carry a lot of painful memories from the past," says Jahnige, who received her medical degree from Harvard and a master's in public health from Yale University, both in 1994. "They also complain about medical researchers who have come out when they had

a grant, then left when the money ran out. So there is some concern about whether this is a place that has a sustained commitment to the community."

During the two years she spent at Grace Hill Neighborhood Health Center in north St. Louis after finishing her residency, Jahnige heard such concerns firsthand. But she also found that when she approached Siteman about establishing a referral channel for Grace Hill patients with abnormal mammograms and breast lumps, Shirley Johnson, director of oncology services, was instantly ready to help.

And when she discussed a possible position at Siteman with Timothy J. Eberlein, MD, director of the Siteman Cancer Center, she also



**Right:** M. Katherine Jahnige, MD, MPH, community outreach coordinator for the Siteman Cancer Center and director of The Witness Project.

**Inset and throughout:** Pages from the Daily Lives Planner show its rich variety of artwork and inspirational messages.

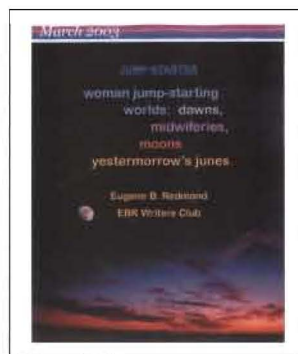
was impressed by his conviction. "I heard in Dr. Eberlein a person who meant it when he said to me: 'It is the mission of a comprehensive cancer center to reduce the burden of cancer in the region, and that means everybody.' I thought then that we really had an opportunity to reframe public perceptions, to improve our relations with the community," she says.

Indeed, says Eberlein, outreach programs are a critical focus of the Siteman Cancer Center. "They help us fulfill one of our most important missions — that of being a resource to our entire community," says Eberlein, who is also the Spencer T. and Ann W. Olin Distinguished Professor at the School of Medicine. "Through the many programs under Dr. Jahnige's fabulous leadership, we can bring our cutting-edge interventions in education, screening, early diagnosis and treatment to all the citizens of this region."

And this commitment is institution-wide, Jahnige has discovered. She now meets regularly with James P. Crane, MD, associate vice chancellor for clinical affairs at the School of Medicine and chief executive officer of Washington University Physicians, and Steven B. Miller, MD, chief medical officer for Barnes-Jewish Hospital (BJH). In June 2002, she gave a presentation on cancer screening outreach to the BJH board. After her talk, Steven H. Lipstein, BJC president and chief executive officer, made an impassioned speech about the medical center's role in public health.

Already, Siteman Cancer Center provides several million dollars per year in charity care. And long before Siteman was established, the Barnard Free Skin and Cancer Hospital, founded in 1905, offered free help to people with cancer. Today, Barnard funds still support inpatient and outpatient treatment of cancer, as well as free mammograms, prescriptions, nutritional supplements, home medical supplies, lodging and transportation to and from the hospital.

"Building on this rich tradition, the Siteman Cancer Center now reaches thousands of St. Louisans each year through community lectures and cancer screenings," says Shirley Johnson, RN, MS, MBA. "Reaching out to individuals who did not have previous access to such services



Roxanna Parker, left, navigator for The Witness Project, and Michelle Warren, program coordinator.

## Witnessing the benefits of screening

Another program, sponsored by the Siteman Cancer Center and funded by the Komen Foundation, is The Witness Project, first developed in Arkansas.

To educate African-American women about the importance of finding breast and cervical cancer early, survivors act as witnesses, sharing their stories in churches and community centers. A "navigator" is available to help women, whatever their insurance status, obtain screening and follow-up care.

Just as Katherine Jahnige arrived at Siteman, the Witness Project director left, so she took over as head of the effort. Now her two staff members—Michelle Warren and Roxanna Parker—coordinate about 10 speaking programs per month; to date, the four-year-old program has reached some 2,000 St. Louis metropolitan women.

Parker first heard about the project in her own church and decided to volunteer. "It was something I felt the Lord had put on my heart to do," she says.

In April 2001, Parker became the Witness Project navigator and began helping women obtain screening. Says Parker: "It's great when a woman in the audience thinks, 'Wow, she's talking to me! That's something I need to do.'"

*"There is a knowingness that is as much a part of us as flesh and blood and bones. It's intuition, the deepest natural knowing...Intuition is the voice within forever pressing us to stretch ourselves, to take risks. To keep loving and giving birth to a new self, regardless of circumstances."* SUSAN TAYLOR

and support has resulted in many being diagnosed and treated who otherwise might not have received care."

But the need is acute — and growing, Jahnige says. Each year, some 29,000 Missourians are diagnosed with cancer and 12,000 die; on the local, state and national levels, African Americans consistently show higher-than-average cancer mortality rates. Yet screening efforts do not always reach those who would benefit.

"Where are the women who are not getting regular mammograms?" asks Jahnige, who lost her own father to cancer when she was 9 years old. "They are right here in the city of St. Louis, where our screening rates are in the bottom half for the state."



**When she began her new job** at Siteman, Jahnige knew she would focus on one of the four forms of cancer that have the greatest population impact: breast, colorectal, lung and prostate. Her own medical background nudged her toward breast cancer, as did Siteman's history of interest in this area. Since 1999, Siteman has been an annual sponsor of the Susan G. Komen "Race for the Cure" in St. Louis; together, the Breast Health Center and Barnes-Jewish Hospital mammography van, sponsored in part by Washington University's Mallinckrodt Institute of Radiology, already perform thousands of screenings each year. And Shirley Johnson had just received a new Komen Foundation grant to fund the use of the van for screening women who were uninsured.

Now Jahnige and her colleagues are reaching out in new directions. The original grant has provided mammograms and follow-up care to some 1,100 uninsured women. A new Barnes-Jewish Hospital and Komen-funded breast cancer outreach effort is focusing on providing mammograms to refugee and immigrant women, along with materials translated into 11 languages. Coleen Stoutenburg, manager of the Breast Health Center at

Barnes-Jewish Hospital, has applied for a collaborative grant to extend screening to Missouri's rural counties, 42 percent of which do not have a single mammography unit. Stoutenburg has been active in outreach, says Jahnige, turning funds from Komen, the Judy Ride, and the state-funded Breast and Cervical Cancer Control Project (BCCCP) into vital services for patients.

They also are beginning to look beyond breast cancer to preventing and detecting other forms of cancer: colorectal, through screenings conducted in conjunction with the Family Care Health Center of St. Louis with support from the St. Louis Men's Group Against Cancer; prostate, in collaboration with various community partners, such as the American Cancer Society, black fraternity chapters and the Minority Leadership Committee; and cervical, through a weekend pap smear program in the Hispanic community, co-sponsored by the Jewish Hospital College of Nursing. In the future, Jahnige wants to increase access to genetic counseling for high-risk minority families and better communicate the need for African-American participation in research studies.

Jahnige is constantly amazed by the support she has received from around the Medical Center. When she schedules a Saturday prostate screening, for example, she contacts the Department of Urology to let them know that blood samples will be coming in for testing. "I just e-mail them and somebody always says: 'Sure, I'll work this weekend to do that.'"

Just as important is the support given so generously by community partners. Jahnige spends many hours a month meeting with groups around the area to make sure that she, and the Siteman Cancer Center, are moving in the right direction. "It's so important not to ride in and say: 'Here's what we are going to do for you.' Instead, we want to come to people and ask: 'How can we be helpful?'" □



# “Is there a HOSPITALIST in the house?”



A new breed of specialist is revolutionizing hospital care, benefiting patients and their primary care physicians. BY DANIEL SIEGEL

Mark S. Thielke, MD, clinical director of the division of hospitalist medicine, talks with patient Willie E. Cox.

**A** FEW YEARS AGO, the word “hospitalist” was not in common usage. Today, the term has emerged in the medical vernacular and in dialogues across the country. Hospitalists — physicians who specialize in inpatient care — are practicing in hospitals nationwide and have found a home at the School of Medicine.

Created in August 2000, the division of hospitalist medicine at Washington University has grown from a staff of five physicians to 11. Increasing demand for their services, as well as an expanding role at the university, has sparked the division’s rapid growth.

Hospitalists Robert J. Mahoney, MD, and Jason B. Rothschild, MD, consult with Barnes-Jewish Hospital resident Sanjay Sharma, MD.

Washington University’s hospitalist physicians render many services at Barnes-Jewish Hospital (BJH): They monitor inpatients who don’t have primary care physicians, act as attending physicians on the oncology service, and provide a hospital-wide consult service to fellow physicians.

But, primarily, hospitalists treat patients referred to the BJH hospitalist service by their primary care physicians. Doing so allows referring physicians to leave their hospitalized patients in the care of knowledgeable doctors familiar with the hospital who can be reached 24 hours a day.

Relatively new in the United States, the hospitalist trend has its roots in the United Kingdom and Canada. The need for hospitalists in the United States has arisen from changes in medical practice over the past few decades.

In the mid-1970s, an average physician had about 10 hospitalized patients at any given time and spent about 30 to 40 percent of the day



visiting those inpatients. In today's era of managed care, physicians have fewer inpatients and therefore spend less time at the hospital.

According to Mark S. Thaelke, MD, clinical director of the hospitalist service and assistant professor of medicine, today's physicians are refocused away from the hospital and into the outpatient clinic. Consequently, commuting to and from the hospital has become less cost- and time-efficient. As primary care physicians spend less time visiting hospital patients, the demand for inpatient physicians has increased.

Because hospitalist physicians do not maintain an outpatient practice, they spend 100 percent of their time in the hospital setting, where they treat a wide range of patient populations and are equipped to provide the best possible hospital care.

Says Thaelke: "A hospitalist who spends all of his or her time in the hospital would seem to be ideally suited for the unique needs of an acutely ill inpatient."

**HOSPITALISTS' AROUND-THE-CLOCK CARE** comforts patients with the knowledge that a physician will be available for them when needed. Furthermore, because hospitalists are familiar with each patient's case, they can provide continuous updates to concerned family members.

By serving as an easily accessible, centralized resource for information and patient care, hospitalists manage, in some cases, to reduce length of inpatient stay and, at the same time, improve quality of treatment.

Referring physicians also benefit. The hospitalist service allows a patient's primary care physician to concentrate on the needs of outpatients, secure in the knowledge that



Medical student Jonathan Dorff and hospitalist Myra L. Rubio, MD, instructor of medicine.

**"A hospitalist who spends all of his or her time in the hospital would seem to be ideally suited for the unique needs of an acutely ill inpatient."**

MARK S. THOELKE, MD

a qualified physician is caring for his inpatients. This does not mean, however, that there is a loss of communication between referring doctors and their patients. One of a hospitalist's responsibilities is to ensure continuity of care by keeping patients' primary care physicians informed of any changes in their conditions.

Although at first skeptical about the merits of the hospitalist program, internist Melvin J. Butler, MD, instructor of clinical medicine, now regularly refers patients to the BJH hospitalist service.

"I cannot praise the hospitalist program enough," Butler says. "Its wonderful service manages to increase hospital efficiency while at the same time improve the quality of care.

The program is certainly a benefit to anyone who uses it."

According to Thaelke, patients and physicians using the service for the first time are soon won over by the program's benefits.

"We have had extremely positive feedback from patients and their families," he says. "We also have surveyed the physicians who refer to our service and their responses have been equally strong."

**ASIDE FROM INPATIENT CARE,** hospitalist physicians also are dedicated to research and teaching. Patient-based clinical trials they conduct are aimed at improving the quality of care provided within the hospital system.

For example, national studies have shown that the ineffectiveness of diagnosing and treating osteoporosis in elderly patients is a problem that exists in hospitals throughout the country, according to Thaelke. But, he says, recent research done by hospitalists at Washington University and Barnes-Jewish Hospital has shown that hospitalists do a better job in such areas where quality is lacking.

The university's hospitalists also play an important teaching role. Whether on an inpatient ward, medical oncology service, or providing advice elsewhere in the hospital, hospitalist physicians work closely with medical students and residents.


"Because we are so involved with students, we have attracted a faculty that is very interested in teaching," says Thaelke. "Teaching the next generation of doctors keeps us up to date on what's new in hospital medicine. That, in turn, helps us provide the best possible care for our patients." □

**Washington University in St. Louis School of Medicine**  
**Infectious Agents of Bioterrorism**

**Introduction: Bacillus Anthracis**

Bacillus anthracis is a non-motile, gram-positive, spore-forming bacterium.

**Figure 1: Bacillus Anthracis**



**Figure 2: Electron Micrograph Slice of Bacillus Anthracis Spore**

Bacillus anthracis spores are two forms. The spore here and the one about 1-10 microns which is the same size as a tubulin.

**Washington University in St. Louis School of Medicine**  
**DEPRESSION: Recognition and Treatment of Major Depression**

Compared with other major public health problems, major depression is more prevalent and more treatable, and less well recognized.

**Comparison of MDD with Other Disorders**

Variable	MDD	CHD	Cancer	AIDS
Cost/Year (\$Billion)	\$4	\$3	\$14	\$2
Life-time Prevalence (Millions)	12	7	6	0.2
Recognition Rate	Low	High	High	High
Treatability	High	Variable	Variable	Low

According to Hays, the extent of cost savings that would be realized by systematically treating major depression would outweigh the direct treatment cost by \$4.4 billion a year, net cost of that cost savings coming from disability factors.

**Disability Due to MDD Compared with Other Chronic Conditions**



**Washington University in St. Louis School of Medicine**  
**Adult Immunization**

Many patients are being notified for tetanus booster. The CDC recommends a tetanus booster every 10 years throughout the lifespan of average risk. The American College of Physicians recommends a single booster at age 65, assuming a full adult immunization history.

**Algorithm for tetanus prophylaxis for wounds**

Wound severity	Immunization status	Immunization recommendation
Clean, minor wound	Completed primary series	None
	Unknown or $\leq 3$ doses	1 dose
Contaminated or deep wound	Completed primary series	None
	Unknown or $\leq 3$ doses	1 dose + TIG

What's new in medicine? Continuing Medical Education

# C.M.E.

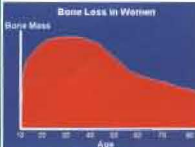
**Washington University in St. Louis School of Medicine**  
**Osteoporosis**

**Diagnosis**

Epidemiological studies have demonstrated that bone mineral density predicts fracture risk, even better than blood pressure or cholesterol predict stroke and coronary artery disease mortality (BMJ) leading to key to early diagnosis. The association between bone mass and fracture is stronger than that between systolic blood pressure and stroke, or that between serum cholesterol and coronary disease. (Osteoporosis 1999; Page 1786; June 1998; Trans 1997; 10; 1792; Medline 1993).

**What has been decreasing, fracture incidence increases.**

**Bone Loss in Women**



THREE WEEKS AFTER ANTHRAX-LADEN LETTERS contaminated U.S. media and government offices last October, the School of Medicine's Office of Continuing Medical Education rolled out a new course on bioterrorism and public health. Infectious disease experts discussed spotting infectious agents. Carol S. North, MD, associate professor of psychiatry and an authority on post-traumatic stress disorder following major disasters, outlined the psychological impacts and ways to deal with them. A Muslim professor from the Hilltop campus explained the social costs of the current cultural tensions. Other experts addressed issues of hospital preparedness.

► Examples of CME-Online's many course offerings surround these pages.

**Washington University in St. Louis School of Medicine**  
**Diabetic Foot: Office Evaluation**

**History and Physical Examination**

**Figure 4: Usual Evaluation History**

- Precipitating event
- Duration
- History of recurrence?
- Response to prior treatment
- Previous antibiotic therapy

In talking to patients with diabetic foot ulcers, several elements often precipitating events such as new footwear or a single injury often precipitate the ulcer. The location of the ulcer and symptoms of pain whether the ulcer is new or recurrent is important, since the ulcer location may be addressed in patients with recurrent ulcers. In particular concern is patients with chronic, recurring ulcers. A patient treatment is important in getting Ulcer Therapy. A patient may present with a peripheral lesion of the ulcer base, an ulcers above. However, if required to several courses of antibiotics, intravenous treatment.

**Figure 4: Usual Evaluation Physical Exam**

**Washington University in St. Louis School of Medicine**  
**Pathophysiology**

Asthma is a chronic inflammatory disorder characterized by eosinophils and lymphocytes in the airway.

**Figure 1: Pathophysiology of Allergic Disease**



Figure 1 depicts the pathophysiology of allergic disease.

**Washington University in St. Louis School of Medicine**  
**Men's Health II: Sexual Dysfunction and Erectile Dysfunction**

Erectile dysfunction is estimated to affect 20-30 million men in the United States. The prevalence of ED increases as patients age due to the increasing frequency of its risk factors. The graph below shows the prevalence of ED from the Massachusetts Male Aging Study that the prevalence of ED in the prevalence of ED in men aged 40.

**Prevalence of Erectile Dysfunction by Age**




More recent studies that included younger patients have confirmed the significant prevalence of erectile dysfunction. A U.S. survey of over 3,000 adults age 18-80 (mean age 46) and an English study of over 1,700 adults aged 18-75 (mean age 50) confirmed a high prevalence rate of sexual dysfunction in both men and women. Higher rates of ED were seen in the English study who contained older patients. Both of these studies showed that self-reported dysfunction is more common in men over 50 years.

**Washington University in St. Louis School of Medicine**  
**Men's Health I: Prostate Cancer**

The prostate functions as an accessory sex gland to men. It contributes 10-20% of the semen but is not required for fertility. In fact, the gland serves as other functions. It is also adjacent to the bladder and surrounding the urethra. However, prostaticitis is by cause several clinical conditions.

The prostate is more glandular in men at birth, approximately the size of a pea. The prostate grows most rapidly during adolescence after the establishment stage that begins in puberty. The average weight of a young adult male is about 20 grams in size, approximately 1 inch in diameter. The gland grows more slowly during adulthood. By age 70, the average prostate is 40 grams in size. Prostate glands greater than 40 grams (or 60 cc) in size are considered large and increase the risk of developing clinical symptoms and require a benign prostatic hyperplasia (BPH) treatment.

**Location of BPH vs. Prostate Cancer**



BPH usually occurs centrally around the urethra.



**Washington University in St. Louis School of Medicine**  
**Prostate Cancer Systemic Therapy**

**Therapy After Recurrence** David Finkel

Detailed description of therapy after recurrence of prostate cancer, including a graph showing **Figure 3: Natural History of Metastatic Prostate Cancer** with axes for **Tumor Volume and Activity** and **Time**.

**Figure 4: Second-Line Hormonal Agents**

**Therapy**

**Washington University in St. Louis School of Medicine**  
**Breast and Gynecologic Cancer**

**Estrogen Replacement** Dei

**Breast Cancer:** Role of hormone therapy in the treatment of breast cancer, including a graph showing **Figure 5: Relative Risk for CVD by Dose from SHEP** with axes for **Relative Risk** and **Diastolic Blood Pressure**.

**Washington University in St. Louis School of Medicine**  
**Hypertension Treatment in the Elderly**

**The J-Curve** McD

Discussion of the J-curve phenomenon in hypertension treatment, including a graph showing **Figure 6: Relative Risk for CVD by Dose from SHEP** with axes for **Relative Risk** and **Diastolic Blood Pressure**.

ion offers the subjects professionals need to know—now.

# NOW

"We want to respond quickly to physicians' educational needs," explains Gail M. Goodenow, director of continuing medical education (CME) at Washington University.

To get word out about the bioterrorism course, the department used e-mails and facsimiles to complement traditional brochures. Nearly 300 physicians attended.

The bioterrorism program exemplifies the changes taking place in continuing medical education. New topics, new formats and new ways of reaching physicians with them are developing at an accelerating pace, mirroring the dramatic changes within the medical profession itself.

**BY BETSY ROGERS**

**Washington University in St. Louis School of Medicine**  
**Hypertension Management**

**African Americans with Hypertension** McD

Discussion of hypertension management in African Americans, including a graph showing **Figure 7: Transmural Heart** with axes for **Percent of Heart** and **Transmural Heart**.

**Washington University in St. Louis School of Medicine**  
**HEART FAILURE**

**Pathophysiology of Systolic Heart Failure** McD

Discussion of the pathophysiology of systolic heart failure, including a graph showing **Figure 8: Lifestyle Modification** with axes for **Percent of Heart** and **Lifestyle Modification**.

**Washington University in St. Louis School of Medicine**  
**Medical Therapy** Dei

**Cardiovascular Disease**

Discussion of medical therapy for cardiovascular disease, including a graph showing **Figure 9: Lipid-Lowering Therapy Effect on Cardio Events** with axes for **Percent of Heart** and **Lipid-Lowering Therapy**.

**Washington University in St. Louis School of Medicine**  
**Hypertension Treatment in the Elderly**

**Lifestyle Modification** Dei

Discussion of lifestyle modification for hypertension, including a graph showing **Figure 10: Hypertension Management** with axes for **Percent of Heart** and **Hypertension Management**.

**Washington University in St. Louis School of Medicine**  
**Hypertension Management**

**Identify and Diagnose** McD

Discussion of identifying and diagnosing hypertension, including a graph showing **Figure 11: Hypertension Management** with axes for **Percent of Heart** and **Hypertension Management**.

**I**N AN ENVIRONMENT WHERE new discoveries, technologies and treatments revolutionize medical care on a daily basis, ongoing education becomes ever more critical. Doctors require continuing education credits for their annual licensing, but much more importantly, they need up-to-the-minute information to deliver the best care to their patients.

To keep abreast of these changes in medical knowledge, the CME staff depend on medical school faculty who, Goodenow says, are eager to share their knowledge.

"They see it as part of their role as educators to do undergraduate, graduate and continuing education, part of their mission as academicians," she explains. "Our faculty initiate and develop content for CME programs—we facilitate the planning and accreditation."

Physicians know what's new in medicine. "In many

cases, our faculty are doing the research," Goodenow says. "Faculty experts know what research should be translated into continuing education and they communicate that expertise in CME courses."

And they do it prolifically. Last year, the CME office presented 275 programs—137 courses and 138 rounds or in-house conferences. These offerings added up to nearly 7,500 hours of instruction and 109,100 credit hours granted.

Lining up teachers, then, is only part of the challenge.

How to deliver information in a manner that is most useful and accessible to physician-learners is an equally important aspect of CME.

"Contemporary approaches to CME must be available to the health professional at the teachable moment. To be most effective, the learner needs to access information whenever a question arises," says W. Edwin Dodson, MD, associate vice chancellor for continuing medical education and associate dean for medical school admissions. "With ever-increasing time demands on physicians, CME-Online will become all the more important to practicing physicians."

Not surprisingly, Web-based learning has proved to be one of the most effective new methods for delivering CME instruction. CME-Online has shown steady growth



Hands-on training, such as this laparoscopic procedure, is among the ways CME gives physicians the healing edge.

since its introduction in 1999. Recently the office began promoting CME-Online through the Washington University Medical Center Alumni Association (WUMCAA), whose members are one of CME's major constituencies. "The response has been great," Goodenow says. "We have nearly 400 new participants since April."

WUMCAA was instrumental in the development of the majority of CME-Online courses via its educational funding. With the help of alumni, the number of available courses has grown steadily over the past year.

"The Alumni Association's support has allowed us to extend the scope and reach of our educational programs for physicians in practice," says Dodson. "As a result, physicians anywhere have ready access to educational material crafted by our faculty."

Most CME-Online programs are developed from an earlier didactic lecture edited for online presentation. The advantages for participating physicians are numerous: They can study the material at any time of day or night, at their own pace; instructors make themselves available for questions and discussion via e-mail, and participants can test repeatedly until they feel comfortable with the new knowledge. Authors of CME-Online courses review and update their courses as necessary, so online material is as current as the latest discovery.

And even as CME Online is taking off—current course topics range from osteoporosis to sleep apnea, from prostate cancer to heart disease—CME staff continue to explore alternative methods for delivering medical information to physicians, such as DVD or CD-ROM.

**"Our programs in allergy/immunology are inclusive of all of our full-time and private practice faculty members. That builds an academic camaraderie among members of the division."**

Phillip E. Korenblat, MD  
Activity chair for the CME programs "Clinical Allergy for the Practicing Physician" and "Biennial Allergy Abroad"

## IN TODAY'S RAPIDLY CHANGING HEALTH CARE ENVIRONMENT,

primary care providers are expected to do more and more, and they may need to perform procedures in their offices. For them, traditional didactic teaching methods are often utilized. One of these programs may include, for example, hypertension, coronary artery disease, cholesterol and lipids under the broader category of cardiac health. Other CME programs deal with a category of patient care, such as women's health.

"We also do programs that are overviews of best practices," Goodenow says. "These can be multispecialty-oriented programs. Presentations may include multiple illnesses, assessment and diagnosis, and a literature review to present a treatment plan based on evidence our faculty have researched."

This kind of training relieves the practicing physician of the need to investigate numerous treatment protocols to discover the most effective.


Other CME courses provide traditional hands-on opportunities for physicians to acquire new skills and techniques while taking advantage of new educational technologies. For example, in a current offering on urologic laparoscopic techniques, participants attend lectures, view videotapes and actually practice procedures in the laboratory. They also watch the faculty perform operations via two-way audio/video broadcasts that connect the operating room and the conference room, a setup that allows spontaneous exchange and faculty-learner interaction.

With all of these offerings, the CME program reaches out to a diverse audience. Enrollees are primarily physicians, physicians-in-training, residents and fellows. Nearly half of the CME credits given last year were to School of Medicine and local referring physicians participating in ongoing rounds. But with national accreditation, course offerings also draw physicians from across the nation and around the world.

With the help of faculty and alumni, the continuing medical education team works hard to keep its offerings complete with leading-edge medical discoveries offered through a variety of educational formats.

The quality of instruction at the School of Medicine, coupled with multiple learning options offered by the CME program, keeps Washington University among the most comprehensive resources for practicing physicians. Since its debut, CME-Online has proved popular and it should continue to grow, perhaps as the most practical and convenient of these many options.

"The goal of CME is to move the latest information from the academic setting into the medical community," says Dodson, "where physicians put it into practice — helping people now." □



CME director Gail M. Goodenow with Phillip E. Korenblat, MD, professor of clinical medicine, who says "the best way to learn is to teach."

**"CME-Online offers convenient, well-structured courses with appropriate graphics."**

Dennis P. Owens, MD, PhD '82,  
Psychiatry Associates  
of Kansas City,  
has earned 22 credits online

## Full Circle

**Following decades of service as a School of Medicine administrator, Lee Fetter felt it was time for a change.**

BY STEVE KOHLER

**W**HEN LEE FETTER LEFT HIS POSITION at Washington University School of Medicine after 20 years of service, he declined a big going-away party. Because he was crossing the street to St. Louis Children's Hospital, he thought it was incongruous to say goodbye to friends over cake and punch on Monday and begin business meetings with many of the same people on Tuesday.

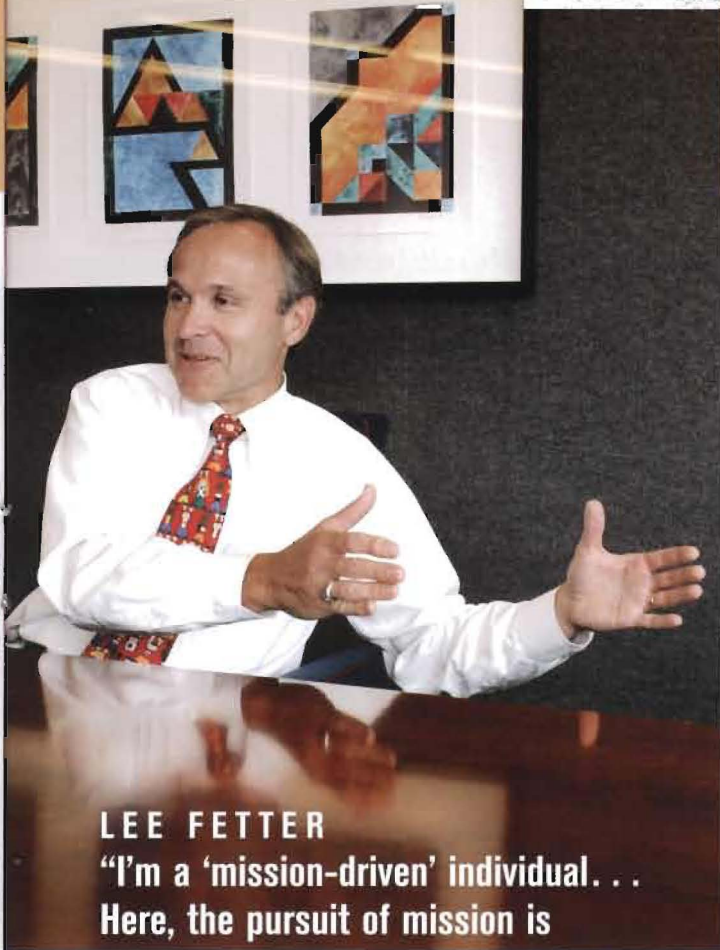
In an unanticipated change of career direction that Fetter describes as "fairly dramatic" but that preserves an association with the school, he assumed the position of president of St. Louis Children's Hospital and senior executive officer of BJC HealthCare on July 1, 2002.

"I first started thinking about some kind of change two years ago," Fetter says. "I was coming up on 50; I would have been at the School of Medicine for 20 years, and Bill, (executive vice chancellor and dean of the medical school, William A. Peck, MD) with whom I worked closely for 14 years, would be announcing his impending retirement as dean. It seemed like an opportune time."

Having served most recently as the chief operating officer of the school and also of Washington University Physicians, the faculty practice plan of the school, Fetter did not initially consider hospital management as a direction. However, an unexpected stint successfully running the jointly owned (WU/BJC) Health Partners HMO just prior to its sale exposed him to broader possibilities.

Then Ted Frey, the previous president of St. Louis Children's Hospital and a colleague with whom Fetter had worked closely, announced his retirement. That coincidence caught Fetter's attention, and as he weighed possibilities, including opportunities within Washington University, the job at Children's began to feel more and more like the right choice.

In some ways, the change to hospital management is "not as new as it may seem," he says. "Before I joined the university, I was executive director of the Missouri Health and Education Facilities Authority. In that role, I helped arrange the \$80 million bond issue that built the new



**LEE FETTER**

**“I’m a ‘mission-driven’ individual. . .  
Here, the pursuit of mission is  
the most focused I’ve ever experienced.”**

St. Louis Children’s Hospital at One Children’s Place. And, because I was in charge of the medical school’s business operations, I’ve always worked closely with hospital administrators. In some ways, it’s like coming full circle,” he says.

**T**o the question of whether such a big job produces anxiety, Fetter says: “Yes, it is a daunting challenge. But because of the strong management team in place here and at BJC, I feel confident.” He calls his colleagues in administration a blessing, “thanks to Ted Frey and Steve Lipstein (CEO of BJC HealthCare), who have recruited well.” Other positives include a newly refurbished facility architecturally attuned to serve its patients and a fiscally sound operation.

The new job has its surprises. At the medical school, Fetter says the size and energy of the place always stimulated him. But that energy often went in many directions. Because of his broad administrative responsibilities, he never had the luxury of adopting any single one. “At St. Louis Children’s Hospital, all 2,500 people focus on one goal—do what’s right for kids. The resulting power is palpable,” he says.

Another difference: the immense emotional impact of caring for critically ill children. Fetter acknowledges

having been brought to tears on one early occasion. Helping to lead a small tour through the bone marrow transplant unit, he was overwhelmed by the poignant stories of the children, their families and their caregivers. Later that day, he met Kenny Jackson, a 21-year hospital employee legendary for his constant good cheer and sincere concern for the people he calls “visitors.” It’s the commitment and heart embodied by Jackson that drives Fetter. “I’m a ‘mission-driven’ individual—motivated by the commitment of others to a great cause,” he says. “Here, the pursuit of mission is the most focused I’ve ever experienced.”

As the father of five boys, Fetter knows firsthand the extent to which families rely on him and the people he works with. “There was one point in our years of child rearing when my wife, Barb, and I referred to this hospital as the ‘St. Louis Children’s Hilton,’” he says, when several hospitalizations hit at once. “I’ve told my family that they may have been largely responsible for getting me this job. Barb’s strong family values have had a big influence on my orientation. At a minimum, I think the search committee recognized our status as good customers.”

Fetter is working with clinical leaders to refine a vision for the hospital. He promises that the future will include an even closer relationship with the School of Medicine, perhaps with developmental biology and genomics endeavors that could mean so much to revolutionizing pediatric health care in general. “I’ve been emphatic that one way to take St. Louis Children’s Hospital to the next level is to strengthen its relationship with Washington University School of Medicine,” he says. “We intend to be full partners.” He is meeting with medical school department heads to lend assistance in recruiting new pediatric specialists. “My experience at Washington University and with Bill Peck taught me the importance of setting our expectations very high,” he says.

Another early goal is to meet as many Children’s employees as possible. He’s been holding meetings to introduce himself and field questions. Fetter says the meetings serve as one more way to close the circle and bring everyone into the loop so that their energy can be most effectively focused on their task: to do what’s right for kids. □

*Highlighting the accomplishments of students, medical graduates, current and former house staff and faculty who embody the School of Medicine's unbroken tradition of excellence.*

## Alumnus' novel discovery influences cancer research

MICHAEL B. KASTAN, MD, PHD '84, is one of the 20 most-cited (and, thus, most influential) scientists of the 1990s, with more than 7,800 citations of seven papers that he authored.

The first of these papers, "Participation of p53 protein in the cellular response to DNA damage," discussed a concept so new that its significance was not immediately understood, and the first journal to which he submitted it did not publish his findings. At the time, he was a second-year faculty member at The Johns Hopkins University School of Medicine and a relative newcomer to publishing. Subsequently, *Cancer Research* published the paper, reporting his seminal discovery that the p53 protein is induced by DNA damage and is a major determinant of cellular responses to DNA

Memphis, Kastan is also professor of pediatrics and chief of the division of pediatric hematology/oncology at the University of Tennessee there. Along with administrative and clinical duties, he continues to direct a basic science laboratory investigating cellular responses to DNA damage.

Kastan went to St. Jude in 1998 after nine years on the faculty at Johns Hopkins. After graduation from Washington University's Medical Scientist Training Program, he completed a residency in pediatrics at The Johns Hopkins Hospital and then spent three years there as a clinical and research fellow in pediatric hematology/oncology. He joined the faculty as an assistant professor of oncology and pediatrics in 1989 and started his own laboratory, investigating cell cycle control and molecular controls of DNA damage responses. Soon promoted to associate professor, then full professor, he directed the division of pharmacology and experimental therapeutics at Johns Hopkins Oncology Center in addition to his research and clinical work.

**Kastan's publications now number nearly 200**, and he has given invited lectures throughout the United States and Europe, as well as in China and Japan. He serves on a number of editorial boards and the scientific boards of several organizations and cancer centers. He chairs the Board of Scientific Counselors for the National Cancer Institute and recently completed a term

**A Kastan paper discussed a concept so new that its significance was not immediately understood, and the first journal to which he submitted it did not publish his findings.**

MICHAEL B. KASTAN, MD, PHD



damage. This discovery has influence in many fields, among them tumor suppressor genes, radiation biology, cell-cycle control, carcinogenesis and tumor biology, and it also has clinical implications for tumor development and for therapy. Kastan went on to link the gene product mutated in Ataxia-telangiectasia (now known as ATM) to the p53 response.

Now chairman of the department of hematology/oncology and co-director of the molecular oncology program at St. Jude Children's Research Hospital in

Memphis, Kastan is also professor of pediatrics and chief of the division of pediatric hematology/oncology at the University of Tennessee there. Along with administrative and clinical duties, he continues to direct a basic science laboratory investigating cellular responses to DNA damage.

Kastan is married to Kathryn Goldstein Kastan, a family therapist who holds master's degrees in social work and education from Washington University's George Warren Brown School of Social Work. The Kastans have three sons, Ben, Nathaniel and Jonathan. In his limited spare time, Kastan "tries to make it to a reasonable fraction of my kids' extracurricular activities" and plays basketball whenever he can.

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## Nice guy finishes first, gains honors along the way

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WHEN AL (ALBERT L.) RHOTON JR. graduated from Washington University School of Medicine at the head of his class in 1959, he began an illustrious career for which he has been garnering honors ever since.

Rhoton is the recipient of the highest honors given by the top neurosurgical societies: in 2001, the Medal of Honor from the World Federation of Neurosurgical Societies and the Medal of Honor from the Neurosurgical Society of America; in 1998, the Cushing Medal from the American Association of Neurological Surgeons, and in 1993, the designation as Honored Guest of the Congress of Neurological Surgeons. Rhoton has served as president of the latter two societies and others including the Society of Neurological Surgeons, the International Interdisciplinary Congress on Craniofacial and Skull Base Surgery, and the International Society for Neurosurgical Technology and Instrument Invention.

Rhoton is R.D. Keene Family Professor of Neurological Surgery and chairman emeritus of the department of neurological surgery at the University of Florida College of Medicine in Gainesville, which this year gave him a Lifetime Achievement Award, made him a Wall of Fame Honoree, and elected him an Honorary Alumnus. In 1984, the Washington University Medical Center Alumni Association gave him an Alumni Achievement Award.

**His many honors haven't changed Rhoton** who, by all accounts, remains the same modest, generous and soft-spoken person he was in medical school. His classmates remember his unselfish sharing of knowledge. Occupational therapy students struggling in the human anatomy course remember him explaining fetal circulation to them in a library corridor. One of them was Joyce Moldenhauer, who married Rhoton while they were still in school. Now 45 years later, they have four children — three are physicians and one is a nurse. Al and Joyce jog together every day and delight in playing with their 12 grandchildren.

After completing neurosurgical training, Rhoton spent six years at the Mayo Clinic in Rochester MN. In 1972, he became professor and chair of the fledgling

department of neurological surgery at the University of Florida. He built it into one of the world's premier departments and was the force behind establishing the university's Brain Institute, completed in 1998. All the while he was pioneering the use of the surgical microscope in brain surgery, revolutionizing surgical techniques and transforming the lives of thousands of patients. Regarded worldwide as a father of microneurosurgery,



His many honors haven't changed Rhoton who, by all accounts, remains the same modest, generous and soft-spoken person he was in medical school.

ALBERT L. RHOTON JR., MD

Rhoton developed extraordinary detailed maps of brain anatomy and designed miniaturized instruments that enable surgeons to operate with greater success and safety.

He has trained thousands of neurosurgeons in microsurgery, here and abroad. When he stepped down as department head in 1998, former students, colleagues, patients and friends contributed \$2 million to establish the Albert Rhoton M.D. Chairman's Professorship in Neurosurgery. Matched by state funds, the gifts resulted in a \$4 million endowment that continues to grow.

Rhoton's publications include more than 350 scientific papers. The international journal *Neurosurgery* has published two unprecedented collections of his papers with hundreds of full-color brain illustrations: the "Millennium Supplement" on the posterior cranial fossa in 2000 and the "Twenty-fifth Anniversary Supplement" on the cerebrum this year.

With all his experience, Rhoton has never lost the fascination and awe for the brain that led him to choose neurosurgery. He still applies his scalpel with reverence and wonder to the organ through which, he says, "we become aware of our own soul."

## Helping others—then and now

Carl Hamann, MD '35, leaves bequest to Department of Psychiatry

**C**ARL HAMANN BELIEVED in helping people realize their potential. Feeling that people with mental illness were unable to do that for lack of treatment, he chose psychiatry as his specialty. It was a profession far removed from his boyhood days on a Canton MO farm.

Hamann earned an undergraduate degree at Culver Stockton College in Canton, and then chose Washington University's School of Medicine for his medical degree because two local physicians, both family friends, were alumni. After graduation in 1935, he was commissioned a 1st Lieutenant in the U.S. Army Medical Corps, serving on active duty in the cavalry for a time and in the reserves until 1941. He completed postgraduate training at Yale, Northwestern University and the University of Minnesota, then went to Tulane University in New Orleans as an assistant professor of psychiatry.

In 1941, Hamann moved to Rockford IL, to direct the Elmlawn Sanatorium, a mental hospital. He also

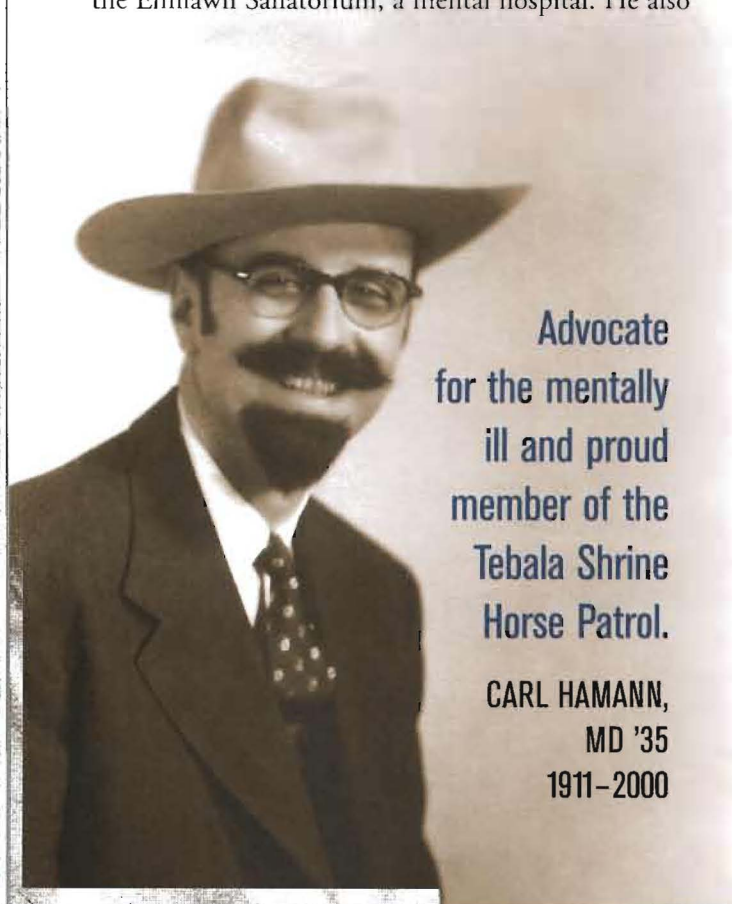
became the primary psychiatric consultant to the state's attorney in Winnebago County and developed a reputation as an expert witness in criminal competency cases throughout Illinois.

Hamann was active in professional and community affairs and was an enthusiastic member of the Masonic Lodge. His favorite photo of himself wearing a cowboy hat hung in his room when physical impairments confined him to a nursing home during the last four years of his life. It was a reminder of the many treasured times he had worn Western garb and ridden his chestnut horse in the Tebala Shrine Horse Patrol in Rockford. Hamann was a charter member of the Patrol, formed in 1950, and an active rider in hundreds of its parades and competitions for more than 20 years.

He continued to enjoy the social activities of the Patrol when he no longer rode, and friends from the Patrol were among the most faithful of those who visited and cared for him in the nursing home. (His son from a brief marriage died in 1997, leaving him with no immediate relatives.) Hamann's physical limitations did not blunt his astute observation of human behavior and he was known, on occasion, to counsel nursing home staff members. In February 2000, his friends staged a gala 89th birthday celebration for him at the nursing home. He died there the following November.

Remembering his medical school days with pride in the quality of his education and pleasure in the camaraderie he had shared with classmates, Hamann left a significant bequest to the School of Medicine for unrestricted use by the Department of Psychiatry.

Charles F. Zorumski, MD, the Samuel B. Guze Professor and chair of the department, says, "The Department of Psychiatry will benefit greatly from Dr. Hamann's generosity. Unrestricted gifts such as his provide tremendous needed flexibility for developing new and innovative lines of research. These gifts also help greatly in fostering the careers of young scientists, particularly clinician-scientists." Hamann is still helping people realize their potential.



**Advocate  
for the mentally  
ill and proud  
member of the  
Tebala Shrine  
Horse Patrol.**

**CARL HAMANN,  
MD '35  
1911-2000**



## You make all the difference!

# Annual Fund

The School of Medicine's annual fund drive—the yearly solicitation of support for the school—ended at the close of June. A total of \$2,137,302 was raised for fiscal year 2002 from medical, health care administration, occupational therapy, physical therapy and nursing alumni, former house staff, and friends.

Through generous annual fund support, the School of Medicine is able to recruit and retain talented researchers such as the eight Alumni Endowed Professors and to attract medical students of the high caliber exemplified by the current Distinguished Alumni Scholarship Program (DASP) awardees. Student projects such as Students Teaching AIDS to Students (STATS), the Perinatal Project, the Forum for International Health and Tropical Medicine (FIHTM), the Saturday Neighborhood Health Center and the Pediatric Outreach Program also benefit from the generosity of the School of Medicine's alumni and friends.

### Alumni Endowed Professors

Established by the Washington University Medical Center Alumni Association (WUMCAA) in 1978, this program is unique in that unrestricted gifts from alumni, former house staff, and friends are combined with designated gifts from donors to fund endowment of permanent alumni professorships. Endowed professorships not only provide resources in perpetuity, they are among the highest honors in academic medicine.

#### ANATOMY AND NEUROBIOLOGY

Joshua R. Sanes, PhD

#### BIOCHEMISTRY AND MOLECULAR BIOPHYSICS

Elliot L. Elson, PhD

#### CELL BIOLOGY AND PHYSIOLOGY

Robert P. Mecham, PhD

#### MOLECULAR MICROBIOLOGY

Douglas E. Berg, PhD

#### MOLECULAR BIOLOGY AND PHARMACOLOGY

Jeanne M. Nerbonne, PhD

David M. Ornitz, MD, PhD

#### PATHOLOGY AND IMMUNOLOGY

Robert D. Schreiber, PhD

#### PEDIATRICS

J. Julio Pérez-Fontán, MD

### Alumni Results by Program

PERCENT PARTICIPATION JULY 1, 2001–JUNE 30, 2002

MD-Alumni	41%
Former House Staff	19%
Health Administration	29%
Occupational Therapy	25%
Physical Therapy	33%
Nursing	28%

### Two Annual Fund Challengers in FY '02

Through the generous Annual Fund challenges launched by W. Edward Lansche, MD '52, and Lawrence Pakula, MD '57, medical alumni participation reached 41.3 percent in fiscal year 2002.

The Lansche Century Club Challenge matched all MD, nursing and former house staff \$100 Century Club gifts one-for-one between December 1, 2001, and June 30, 2002. Five hundred twenty-five donors responded to the Century Club Challenge, raising nearly \$55,000.

The Pakula Eliot Society Challenge matched two-for-one all new \$1,000 Eliot Society gifts made by MD, house staff, nursing, occupational therapy, physical therapy and health administration alumni between April 1, 2002, and June 30, 2002. Forty-two new donors joined the Eliot Society, raising more than \$52,000. A total of 718 Eliot Society members can be counted for the medical school in fiscal year 2002, with 149 new members and 569 renewals.

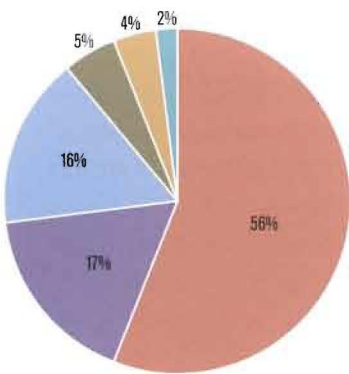
The reunion gift program experienced another great year with overall reunion class participation exceeding 53.8 percent and raising nearly \$215,000 in unrestricted support. The Class of 1977 established a class scholarship, and the Class of 1972 continued support of its class scholarships.

## WUMCAA reports successful year

**M**EDICAL STUDENTS OBTAINED hands-on training, young patients got a chance to laugh, citizens of Bangladesh learned to prevent disease — all as a result of decisions made by the Washington University Medical Center Alumni Association during the past year. J. William Campbell, MD, president of WUMCAA's Executive Council for 2001–02, reported the year's accomplishments to alumni gathered in May for Reunion 2002.

The Executive Council, representing medical alumni and former hospital house staff, allocated funding

### WUMCAA Fund Allocation 2001–2002 Total: \$272,685



- Distinguished Alumni Scholarships
- Computers for students
- 12 student organizations community service projects
- Other activities
- Primary care preceptorships
- Academic and honor societies

to primary care preceptorships and other projects to enhance medical education for students. Council members also supported student organizations that “clown around” with hospitalized children, raise HIV/AIDS awareness or travel down the street or across the globe to educate people about health issues.

Of the more than \$272,000 distributed by the Executive Council during the 2001–02 fiscal year, nearly \$43,000 went to student-initiated community service projects. Funding also supported academic and honor societies, new computer systems for students and other activities. During his presentation,

Campbell reported that funding for these projects came from gifts made by alumni and former house staff to the medical teaching fund.

More than half of this year's funding was designated for Distinguished Alumni Scholarships (DASP), which will support four incoming students throughout their medical school careers. The funding continues support

### WUMCAA Officers and Members 2002–2003

#### PRESIDENT

Carlton S. Pearse, MD '78

#### PRESIDENT-ELECT

Brent Allen, MD '79\*

#### VICE PRESIDENT

Jim Fleshman, MD '80\*

#### TREASURER

Ted Schlafly, MD '80\*

#### PAST PRESIDENTS

John W. Hubert, MD '75

Thomas R. Pohlman, MD '76

J. William Campbell, MD '77

#### OUT-OF-TOWN MEMBERS

Barbara Clark, MD '62,  
Seattle WA\*

Joseph Kent, MD '84,  
Chicago IL\*

Colin McDonald, MD '93,  
Boston MA\*

Jon Morris, MD '92,  
San Diego CA\*

Barbara Quinton, MD, HS '71,  
Washington DC\*

#### LOCAL MEMBERS

Robert Baglan, MD '76

Edward Berg, MD '64\*

Mark Frisse, MD '78\*

Karen Halverson,  
MD '85, HS '91

Kate Kreusser, MD, HS '84\*

Ronald Leidenfrost, MD,  
HS '83

Carolyn Martin,  
MD '76, HS '80

Thomas McKinney, MD '80

Ed Rose, MD '71\*

Will Ross, MD '84, HS '91

Kevin B. Schaberg, MD '66

Edward F. Schlafly Jr.,  
MD '80, HS '85

Marlys Schuh, MD '79\*

Jeffrey Tillinghast,  
MD '80, HS '88

Alan Wild, MD, HS '88

\*newly elected

### Distinguished Alumni Scholarship Honorees

Deborah Gersell, MD '75

Alan Lyss, MD '76

Paul Mennes, MD '70

Frederick Peterson, MD '57

of 12 DASP scholars in the second, third and fourth years of their medical education. Each scholarship is named for a distinguished alumnus or alumna chosen by the Executive Council. This year's honorees were paired with students entering in fall 2002.

Thanks to previous funding allocated to CME online, alumni once again were offered free continuing medical education credits at [cme.wustl.edu](http://cme.wustl.edu).

New Executive Council officers and members were elected at the meeting and took office July 1, 2002.

# Paying a debt of loyalty **New WUMCAA President**

BY ANNE ENRIGHT SHEPHERD

**C**ARLTON S. PEARSE, MD, the new president of the Washington University Medical Center Alumni Association (WUMCAA), has one simple reason for accepting the post: "I feel a great deal of loyalty to the university."

That loyalty has motivated Pearse to take on the WUMCAA presidency despite the time constraints of being chief of obstetrics and gynecology at St. Luke's Hospital in Chesterfield MO and keeping up with his busy obstetrics/gynecology practice, Women's Health Care, Inc.

"The school has tremendous tradition," Pearse says. "I'd like to maintain the tradition of academic excellence and personal commitment to students and alumni, and to facilitate communication, so those of us who have made it through can help others with the difficult task of succeeding in medical school."

A native of Denver CO, Pearse earned a bachelor's degree in chemical engineering from the University of Colorado in 1973. But the transition to medical school was not all he had dreamed it would be.

"I had a very difficult time in the early part of medical school and the institution was there to support me," Pearse says. "Coming from a state school in Colorado, as an engineering student, I was used to being a big fish in a relatively small pond. I found it hard to matriculate with my classmates — some of the brightest people I've ever met — many of whom came from prestigious East-coast or West-coast institutions."

When classmates said they had already studied much of the material as undergraduates, Pearse remembers thinking, "I didn't think medical school was a review course!"

Crediting then-head of student affairs John C. Herweg, MD, with "bending over backwards to be accommodating," Pearse says the School of Medicine was committed to helping him succeed.



**CARLTON S. PEARSE, MD**

"That was a distinguishing characteristic of the school," he says. "They didn't need me to fill a chair in a classroom — they were one of the top medical schools in the country. But they made a commitment to me on a personal level, and it made all the difference."

Pearse graduated with honors from the School of Medicine in 1978 before completing an internship in internal medicine at Case Western Reserve University. He then returned to St. Louis for a residency in obstetrics and gynecology at the School of Medicine. A fellowship

in advanced gynecological surgery at the University of Kansas rounded out his training.

After working in a private obstetrics/gynecology practice in the St. Louis area for more than 10 years, he returned to Washington University, this time to work on a master's of business administration, which he completed in 1993. He served as corporate president of

"I would like to try to maintain the connection between alumni scattered around the country and the current student body. Medicine should be a continuum of experience."

Generations Health Care, Inc., for nearly three years before returning to his current practice.

He attributes his success to two sources: his wife of 27 years, Mary Pearse, GR '81, and his partner and mentor Theodore M. Meiners, MD '48.

Pearse believes that active alumni can have a profound impact on the school, so he plans to help keep the ties strong.

"I would like to try to maintain the connection between alumni scattered around the country and the current student body," he says. "Medicine should be a continuum of experience, where learning never stops. Hopefully those of us in practice have something to offer beyond just our contributions to the annual fund."

# Class Notes

**30s** **Irving L. Berger, MD '39**, writes that he is still busy, doing his artwork and active at the Middle East Think Tank at Florida Atlantic University. Berger, a psychiatrist, lives in Delray Beach.

**40s** **H. Glenn Kellogg, MD '47**, reaches each fall at the University of California at San Diego medical school in the first-year students' doctor/patient relationship course. He is an assistant professor of pediatrics there.

**John R. Fischer, MD '49**, recently authored *Prairie Doctor*, an autobiography of his life as a country doctor in Blooming Prairie MN, during the mid-20th century. Published by Fischer, the book chronicles his many experiences in medicine and recounts incidents and personalities of his patients over the years. Fully retired from medicine, Fischer and his wife, **Elinor Dunn Fischer, NU '48**, live in Hermann MO. Copies of *Prairie Doctor* are available for \$20 and can be obtained by contacting John Fischer at P.O. Box 283, Hermann, MO 65041-0283.

**Edward Pinney, MD '49**, says he "lives semi-retired in an oceanfront apartment 13 stories above the Atlantic and quietly waits?" A psychiatrist, he does occasional *locum tenens* work in Houston or New Zealand. He lives in Luquillo, Puerto Rico.

**50s** **Robert E. Neu, MD '52**, writes that he and his wife of 51 years are living comfortably and "now enjoy their three lovely daughters and three granddaughters, and spend our time surfing the Net, reading, gardening, playing sax and clarinet for the amusement of our two little Chihuahua dogs and three cats." Each year for more than 30 years, they spent a month traveling, and have visited all the continents of the world.

Before retiring from surgical practice in 1989, Neu was chief of staff and chief of surgery at the Medical Center of Garden Grove CA, a faculty member at the University of California at Irvine, and president of the Orange County CA Surgical Society. Mrs. Neu was his office nurse. His autobiography-genealogy, *Always Neu* is available in the public libraries in St. Louis and Belleville IL, the Library of Congress, the Mormon Family History Library in Salt Lake City, and the Washington University library.

**50s** **Olga Sarar Smith, OT '55**, has officially retired from Christian Hospital Northwest, but still does occasional per diem work there. She is very active in church and community affairs in Florissant MO. She would like to hear from classmates.

**Wade C. Henry, HA '58**, has retired from the Public Health Service. He lives in Anchorage AK, and serves as state coordinator for Volunteers for Alaska Baptists.

**60s** **Frank A. Riddick Jr., MD, HS '61**, retired recently as chief executive officer of the Alton Ochsner Medical Foundation in New Orleans. The Ochsner Clinic Foundation's board honored his many years of service with a dinner in November, 2001. In March 2002, the Jefferson Parish Medical Society presented him with their Distinguished Achievement Award.

**Penelope G. Shackelford, MD '68**, and **Gary D. Shackelford, MD '68**, retired June 30, 2002, from the faculty of Washington University School of Medicine, where Penny was professor of pediatrics and associate professor of molecular microbiology and Gary was professor of pediatrics and radiology. They have moved to Milton WI, where they own "Fair Meadows," 380 acres of marsh, meadows and woodlands. They are working hard to

remove various alien plants on the property to allow the woodlands and wetlands to recover the native flora and fauna of pre-European-settlement times and are also selectively harvesting mature trees to create openings for the forest to regenerate. Their management efforts since acquiring the property in 1985 led to their being named Wisconsin's 2001 Outstanding Tree Farmers of the Year. The Tree Farm System is a privately funded, national effort encouraging excellent forestry on private lands. In 1994, the Shackelfords were awarded the Wildlife Conservation Award by the Rock County Land Conservation Department for their restoration activities. They plan to spend time working at the property and doing "extensive self-study to learn more botany and entomology, as well as more about the investigative methods of field biology." They also will involve students from the local elementary, middle and high schools in projects, as well as students from the University of Wisconsin at Whitewater, 10 miles away. If there is any time left after that, Penny says: "There's that big stack of books and the piano that I will finally find time to play again. And Gary is really looking forward to photography."

**70s** **Thomas M. Houston, MD '75**, was named chief of St. Luke's Hospital Medical Staff in Maumee OH, in March 2002. He completed his post-graduate training in orthopaedic surgery at the University of Michigan and joined the West Side Orthopedic Group, Inc., in 1980, when he became an active member of the St. Luke's medical staff.

**Phyllis L. Borgardt, OT '76**, recently became a member of the National Registry of Rehabilitation Technology Suppliers and serves the California Central coast area in durable medical equipment. She is the owner of a Medicare Certified Clinic for

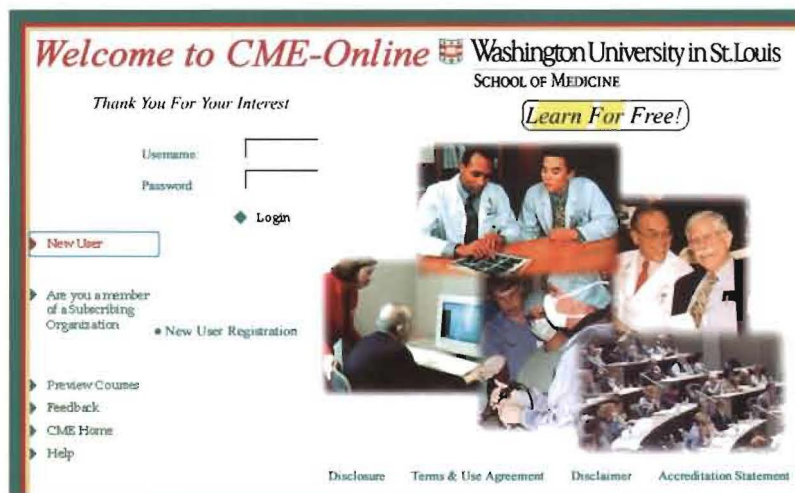
Rehabilitation Services in Fresno and also coordinates the San Luis Obispo County ALS Support Group.

**Randall E. Dalton, MD '76**, was appointed by Health and Human Services Secretary Tommy G. Thompson to serve on the National Advisory Research Resources Council of the National Institutes of Health for a four-year term that began February 1, 2002. A major responsibility of the council is to review and make recommendations regarding grant applications to support biomedical research and research training activities. Dalton is an otolaryngologist/head and neck surgeon in private practice in Richmond VA. He serves on the board of directors of Virginia Commonwealth University Health System Authority, Richmond Eye and Ear Hospital, and the Robert E. Lee Council of the Boy Scouts of America. He is current president of the medical staff of Bon Secours Richmond Community Hospital and president-elect of the Old Dominion Medical Society.

**80s** **Cathy J. Lazarus, MD '81**, recently has been recognized with two teaching awards at Tulane University. The first, a Teaching Scholar Award, is the highest faculty honor for teaching given by the health sciences center. Recipients of the annual award receive a distinctive medallion, plaque and lapel pin, a permanent salary increase, and a stipend to fund future or ongoing educational projects. The second honor, the Gloria P. Walsh Award for Teaching Excellence, was given at the diploma ceremony for the Tulane University School of Medicine. It is given annually by the medical student body in honor of Gloria Walsh, the late wife of Dr. John J. Walsh, chancellor emeritus of the Tulane University Health Sciences Center. Lazarus, who has been at Tulane since 1994, became a full professor of medicine on July 1, 2002. She has

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# Class Notes

created courses and curricula at every level of medical education, has been an advocate for students, and has been a principal or co-principal investigator on several educational innovation and enhancement projects.

**David A. Lubarsky, MD '84**, MBA, has joined the University of Miami School of Medicine as professor and chairman of the Department of Anesthesiology, Perioperative Medicine and Pain Management. He had been a tenured professor, vice chairman of anesthesiology, and chief of the division of general, vascular, transplant anesthesia and critical care medicine at Duke University Medical Center. In 1999, he earned an MBA from Duke's Fuqua School of Business, where he also later taught MBA students about the role of information systems and the Internet in health care. Lubarsky's research has centered on valuing health care and the use of information systems to provide better patient access to operating rooms, and he has written several widely cited articles in those fields. He chairs the editorial board of *AnesthesiaWeb*, the largest anesthesia e-magazine in the world.

**Ellen M. Reynolds, MD '89**, received the 2001 Robert L. Miller "Consultant of the Year" award from the Idaho Emergency Physicians (IEP) at Saint Alphonsus Medical Center in Boise. She was honored in January at the IEP winter reception for the Saint Alphonsus medical staff. The award is given to a consultant who excels in quality of patient care, accessibility and collegiality. Reynolds is one of only two pediatric surgeons in Idaho. She is married and has two children, ages 4 and 8.

**90s Michelle Rast Miller, OT '94**, and her husband, Wesley, announce the arrival of twins, Kendall Michelle and Luke Wesley, on February 21, 2002. Miller is coordinator for Genesis Healthcare System Medical

Occupational Therapy for two hospitals in Zanesville OH.

**Scott R. Gregg, PT '96**, and **Sara B. (Nyhuis) Gregg, PT '96**, announce the birth of Kendra Madison Gregg on February 8, 2002. The Greggs live in Colorado Springs CO.

**Gayle Allenback, OT '98**, married William Stenger III on December 23, 2001. They live in Las Vegas NV, with their golden retriever, Casey. Stenger is a former accountant, now studying comprehensive medical imaging. Allenback works for the Clark County School District as an occupational therapist and is in the process of becoming a certified provider of biofeedback therapy.

**Bryce Helgerson, HA '98**, is director for the department of neurological surgery in the Oregon Health and Science University's School of Medicine in Portland OR.

**James McCarter, MD, PhD '98**, is one of 20 young executives named to the 2002 class of Henry Crown Fellows by Aspen Institute's Henry Crown Fellowship Program. The fellows undertake a two-year program of approximately 24 days of advanced leadership seminars and individual community leadership projects under the direction of experienced Aspen Institute moderators and senior mentors. McCarter is founder, president and chief scientific officer of Divergence, Inc., and a research instructor in genetics at Washington University School of Medicine. He is one of a handful of people worldwide applying genomics to parasitic diseases. At Divergence, McCarter and his staff of 14 are researching ways to interrupt the life cycle of parasites such as hookworms or heartworms without adverse side effects to the host, whether a human, animal or plant. Their work could lead to new environmentally safe pesticides, the development of new drugs for animals and humans, and the development of

plants with nematode resistance. McCarter demonstrated his commitment to community service as a student when, in 1991, he was a founder of the Young Scientist Program, which provides training in the sciences to disadvantaged youth. He was also a cofounder in 1995 of the Mad Scientist Network, an online resource where scientists answer students' questions. The site, originally created as a resource for the St. Louis Public School District, now has 500 scientists participating worldwide.

**Wanda Mahoney, OT '99**, recently moved from New Orleans to New Mexico "to work with kids with special needs at a school on the Navajo reservation."

**Angela Wong, MD '99**, and her husband, Lawrence Cheung, MD, moved back to St. Louis in June, 2002, where he began a dermatology residency at Washington University and she joined St. Louis Children's Hospital as a hospitalist.

## IN MEMORY

**Sarah Barnes, OT '28**, died on May 20, 2002, in St. Louis at the age of 97. She and her twin sister, Susan, and a younger sister, Harriet Barnes Berg, who preceded her in death, were among the early graduates of Washington University's program, then called the St. Louis School of Occupational Therapy. Sarah worked for a time at the Curative Workshop operated by the Junior League of St. Louis, later known as the Occupational Therapy Workshop of St. Louis, and then took a position at St. Louis City Hospital, where she served as chief of occupational therapy for 45 years. Among her survivors are a daughter and two grandchildren. The family asks that memorials be sent to the Washington University Program in Occupational Therapy for a scholarship in her honor.

**Pauline L. (Kimmel) King, NU '33**, died on April 25, 2002, in Massachusetts, at the age of 89. She served in the Army Nurse Corps for a short time during WWII. After the death of her husband, John T. King, in 1953, she resumed her career in nursing. She is survived by her sons, John Jr., **David H. King, AS '67**, and Paul, as well as nine grandchildren and five great-grandchildren.

**Edward H. Lyman, MD '37**, died June 24, 2002, in St. Louis at the age of 89. He had been an ear, nose and throat specialist for more than 40 years. During World War II he served in the Army Air Force and returned home in 1946 to join his father's practice. He was on the staffs of Barnes, Missouri Baptist, St. Luke's, St. Mary's, St. John's and Faith hospitals and was active in the Ear, Nose and Throat Club of St. Louis. Among survivors are his wife of 60 years, Caroline Hartley Lyman, one son and one daughter, seven grandchildren and one great-grandchild.

**Jack W. Cole, MD '44**, died June 17, 2002, in Camden ME, at the age of 81. He was Emeritus Ensign Professor of Surgery at Yale University School of Medicine, where he had chaired the Department of Surgery and directed the division of oncology and the Yale Comprehensive Cancer Center. Prior to moving to Yale in 1966, he was professor of surgery at Western Reserve University and professor and chair of the Department of Surgery at Hahnemann Medical College and Hospital. During World War II he interrupted his residency to serve in the Army Medical Corps, including a stint as chief of surgery service at the 120th Hospital in Bayreuth, Germany. His postgraduate training included an Eleanor Roosevelt International Cancer Research Fellowship in London, where he was elected president of St. Mark's Association. He was active in many professional societies

and had been president of the New England Cancer Society and chairman of the Council of Academic Societies of the American Association of Medical Colleges. Cole was the recipient of many honors during his career, among them a Distinguished Alumni Award at Washington University's Founders Day in 1971 and an honorary Master of Arts degree from Yale in 1966. Survivors include his wife, Ruth Kraft Cole, and three children, Deborah Cole, Douglas Cole, MD, and John Cole. One daughter, Tracy Cole Lawler, died of cancer in 1986.

**Harold L. Boyer, MD, HS '47**, died January 18, 2002. He had been a dermatologist in Las Vegas NV.

**Bruce T. Forsyth, MD '47**, a retired rheumatologist, died in St. Louis on April 19, 2002, of complications from pneumonia. He was 77. He served as a captain in the Army during the Korean War. Among his survivors are his wife, Suzanne, and five sons. Memorials may be made to the Mid-County branch of the St. Louis County Library.

**Warren Locker Felton II, MD '49**, died at his home in Nichols Hills OK, on April 28, 2002, at the age of 76. He had been on the clinical faculty in the department of surgery of the University of Oklahoma College of Medicine in Oklahoma City since 1958. A longtime staff member at Baptist Medical Center, he also had chaired the Department of Surgery and the Department of Cardiovascular Thoracic Surgery there. From 1943 to 1946 he served in the U.S. Naval Reserve; from 1956 to 1958 he was a captain in the U.S. Army Reserve, heading the surgical service at Valley Forge Army Hospital in Pennsylvania. Felton was active in many professional and civic organizations and was a past-president of the Oklahoma Chapter of the American Academy of Surgery and of the Oklahoma Surgical Association. He had been involved in Nichols Hills

municipal government in various capacities since 1985, and served as mayor from 1993-94. In 1995, he was a delegate to the White House Conference on Aging. He is survived by his wife, Judith Ann, and five children, two of whom are physicians.

**Gerald Newport, MD '53**, of Creve Coeur MO, died August 8, 2002, of respiratory failure at the age of 74. He had practiced in the St. Louis area for 44 years and had brought thousands of babies into the world, sometimes delivering three generations of the same family. A former chief of obstetrics and gynecology at Christian Hospital Northwest, he had offices in Bridgeton and Chesterfield at the time of his death. During World War II he served in the U.S. Navy. Survivors include his wife of nearly 53 years, Dolores "Dolly" Bickoff Newport, and three daughters.

**Frederick Harvey Taylor, MD, HS '54**, died April 1, 2002, at St. Simons Island GA, at the age of 81. Before his retirement, he practiced cardiothoracic surgery in Charlotte NC for many years. During World War II he served in the U.S. Navy. He was a past president of a number of professional societies, among them the Southern Thoracic Surgical Association, the North Carolina Surgical Association and the American Association of Thoracic Surgery. He founded the Children's Heart Clinic in Charlotte and was a member of the board of trustees of Mercy Hospital there. Taylor performed the first successful open heart surgery in Charlotte in 1957 and was one of the developers of an artificial Orlon artery still used in heart surgeries. He also was known for his research in tuberculosis. An active golfer, he was a founding member of the Sea Island Golf Club. Among his survivors are his wife of 20 years, Kathryn L. Taylor, one daughter and two sons, and five grandchildren. One son preceded him in death.

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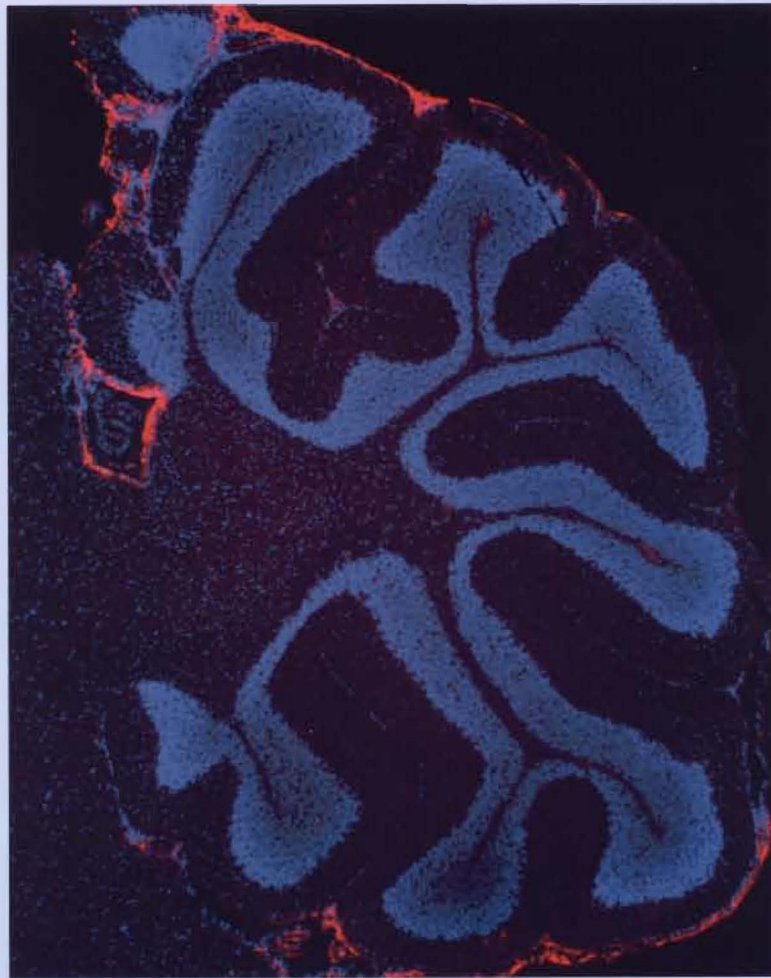
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