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Dean's Message

An honorary white coat

Every fall, our first-year students receive white coats in a ceremony marking their official entry into medicine. The school held a similar event early this year for Emory Trustee Emeritus Jimmy Williams, who donned his own white coat during the dedica-



Dean Thomas Lawley (left) presented a white coat to Jimmy Williams during the dedication of the James B. Williams Medical Education Building.

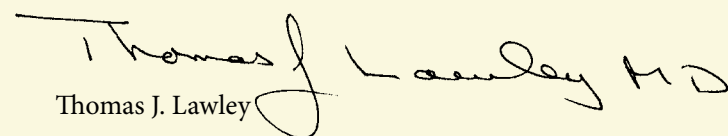
tion of the James B. Williams Medical Education Building. It is a fitting tribute. The retired president and CEO of SunTrust Banks devoted 35 years of service to Emory's Board of Trustees, the university, and the Woodruff Health Sciences Center Board, which governs the medical school.

After graduating from Emory College in 1955, Mr. Williams joined Trust Company of Georgia and rose to become president. In 1979, legendary Coca-Cola leader Robert Woodruff asked him to chair Emory's capital campaign, which had just received \$105 million from the Emily and Ernest Woodruff Foundation, then the largest gift ever to an educational institution. Thus, Mr. Williams served Emory during

a remarkable period of growth. He counseled Emory on its expansion in health care. He encouraged growth in biomedical research with construction of the O. Wayne Rollins Research Center, the Emory Vaccine Center, and the Neurosciences Center. In 1996, he became founding chair of the Woodruff Fund Inc., which enabled construction of the Whitehead Biomedical Research Building and the Emory Winship Cancer Institute Building. More recently, Mr. Williams and the Woodruff Foundation helped support construction of the Emory-Children's Center building to house pediatrics. During his tenure, Emory became one of the nation's top 20 research-oriented medical schools.

The white coat presentation to Mr. Williams brings to mind another cherished part of the student ceremony when all receive a copy of *On Doctoring*, a collection of essays co-edited by our own John Stone. Sadly, Stone lost a short battle with cancer last November. (For more about him, see page 22.) He brought joy and beauty to our lives in many ways—as a physician, teacher, poet, writer, and friend. Stone had a special gift for words and often punctuated his conversations with “thank goodness” and “glory be.” Both are apt expressions to describe two remarkable people. Thank goodness for Jimmy Williams and John Stone and their lasting contributions to the School of Medicine. Thank goodness and glory be!

Sincerely,


Thomas J. Lawley
Dean

In Brief

Predicting vaccine immunity



Emory scientists have found a way to predict vaccine immunity without exposing people to infection. Using immunology, genomics, and bioinformatics, they confronted a long-standing challenge in vaccine development: determining immunity or effectiveness long after vaccination and, often, only after exposure to infection.

Researchers with the Yerkes National Primate Research Center and the Emory Vaccine Center used the yellow fever vaccine (YF-17D) as a model. The vaccine, given to nearly half a billion people over the past 70 years, is one of the most successful ever developed. Yet little is known about the immunological mechanisms that make it so. A team led by Yerkes researcher Bali Pulendran worked with the Emory Vaccine Center, the Georgia Institute of Technology, and the Institute for Systems Biology in Seattle to determine why YF-17D is effective.

The researchers vaccinated 15 healthy people with YF-17D and studied the T cell and antibody responses in their blood. Analysis of gene expression patterns in white blood cells showed that in most of the people the vaccine induced a network of genes involved in the early innate immune response against viruses. Through bioinformatics, the researchers identified distinct gene signatures that correlated with T cell response and the antibody response induced by the vaccine.

“To determine whether these gene signatures could predict immune response, we vaccinated a second group of people and were able to predict with up to 90% accuracy which of those vaccinated would develop a strong T or B cell immunity to yellow fever,” says Pulendran.

Now his team is working to determine whether this approach can be used to predict the effectiveness of flu and other vaccines. If successful, the process could speed up evaluation of new and emerging vaccines and identification of people likely to resist immunity.

Losing sleep over patient safety

What physician doesn't remember the long hours of residency training with little time for rest? At the back of everyone's mind—from residents and supervising physicians to medical school and hospital administrators—is the worry that lack of sleep may jeopardize patient safety.

Emory chancellor Michael M.E. Johns weighed the topic carefully as committee chair for an Institute of Medicine report, *Resident Duty Hours: Enhancing Sleep, Supervision, and Safety*. Issued late last year, the report proposes revising residents' duty hours and workloads to decrease the chances of fatigue-related medical errors and enhance their learning experience.

The report does not seek to reduce residents' work hours from the maximum average of 80 per week set by the Accreditation Council for Graduate Medical Education (ACGME) in 2003. Instead, the report recommends reducing the maximum number of hours worked without sleep to 16, increasing the number of days off, and restricting moonlighting.

Altering residents' work hours alone, however, is not a silver bullet for ensuring patient safety, IOM com-

mittee members stressed. They also called for greater supervision of residents by physicians, limits on patient caseloads based on residents' levels of experience and specialty, and schedule overlap during shift changes to reduce the chances for error during patient hand-over from one doctor to another.

The report cites financial costs and an insufficient health care work force as major barriers to further revising resident work hours. It also calls for additional funding to teaching hospitals, estimating that additional costs associated with shifting some work from residents to other health care personnel or additional residents could total \$1.7 billion per year. The ACGME will review the IOM's recommendations over the next several months.

ONLINE: To view the report on resident hours and patient safety, visit iom.edu/residenthours.



In Brief

The science of problem solving

Gregory Berns knows how to use his brain. The Emory psychiatrist is the idea man behind the new Center for Neuropolicy, which focuses on how the brain influences decision-making in politics, policy, and business. The center involves School of Medicine, Emory College, and Goizueta Business School researchers.

“We all live in groups,” says Berns. “Sometimes groups make good decisions, but groups often behave worse than any of its members would. We’re approaching the problem of collective decision-making from a new perspective by studying how the human brain functions in groups.”

Center members will help advise decision-makers of all kinds by conducting experiments focused on biologically based pressures that influence collective decision-making. Through their discoveries, researchers will



Sometimes groups make good decisions, but groups often behave worse than any of its members would.—EMORY PSYCHIATRIST GREGORY BERNs

better understand how culture, intelligence, and environment influence the way decisions are made and how basic human tendencies drive judgment in certain situations.

As Berns points out, people also need to understand how religious and political ideologies become transformed in the brain and can subvert basic self-survival value judgments, a

phenomenon that occurs in war and terrorism.

“Collective decision-making is political, but politics are biological,” says Berns. “The human brain evolved to function in social groups. By discovering how our brains are wired to behave in groups, we can find solutions to problems of global impact.”

ONLINE: To learn more about Berns and the center, visit neuropolicy.emory.edu

Between the Peachtrees

Emory has expanded its visibility between the Peachtrees. Now 100 years old, Emory Crawford Long Hospital, begins its second century as Emory University Hospital Midtown (EUHM).

The name change more clearly aligns the hospital with Emory’s health system. Located between Peachtree Street and West Peachtree, the hospital sits in an area of Atlanta that is expected to grow in terms of population and as a hub for patient care. Long-term plans for the hospital include the addition of 125 hospital beds, a new Emory Clinic building, and more research space. Currently, the 511-bed hospital has 2,900 employees, 947 Emory medical faculty physicians, and 537 community physicians.

While sporting a new name, EUHM retains much of its heritage with historic signage, the addition of CL to some new signage, and a historical display for visitors.

The original 26-bed hospital opened in 1908 as the Davis-Fischer Sanatorium near present-day Turner Field. In 1911, the hospital moved to its present site and in 1931 was renamed Crawford W. Long Memorial Hospital in honor of the Georgia physician who discovered ether for use as an anesthetic. The hospital became part of Emory in 1939.



Bittersweet journey



Maura George

As a medical student at Northwestern, Maura George set her sites on an internal medicine residency at Grady Memorial Hospital, which offered the diverse patient mix she desired. Ultimately, her decision led her to help a dying man return to Mexico.

Her patient, a 37-year-old immigrant, first came to the ER complaining of nausea, vomiting, thirst, and frequent urination. He was diagnosed and admitted for diabetic ketoacidosis treatment. He was discharged two days later, armed with diabetes information in Spanish and supplies to

check his glucose and take insulin. But the disease had done its damage. A few days later, he returned to Grady, blind in his left eye, his face swollen, and his glucose level dangerously high. A CT scan of his head and face showed an invasive fungal infection that required surgery to remove his left eye. George then became part of his care team, providing aggressive medical treatment. His condition worsened, and he became unresponsive. Knowing he would not survive, the patient’s family asked if he could return to them in Mexico.

Their wish set off a flurry of letters and calls to the Mexican consulate by Grady doctors, including George and Carlos del Rio, who arranged for the patient’s wife to fly from Mexico to Atlanta. Because the flight back to Mexico would be difficult, George volunteered to accompany the couple to provide medical care in tran-

sit. Just getting the patient to and through the Atlanta airport proved challenging. The patient had to be safely secured, and curious onlookers made the long ride to the departure gate unsettling. “It was very hard,” recalls George. “His wife was very loving. She held his hand and stroked his head.”

When they arrived in Mexico City, the patient’s joyous family, including his 14-year-old daughter, greeted them at the airport. “It was so humbling, and they were so grateful,” says George. “I didn’t do anything.”

Still, there were tense moments on arrival: getting through customs after confusion over a passport, arriving at the hospital to find the gates locked on Sunday, getting the patient to his room, and locating a nasal cannula to ease his rapid breathing.

For two days the patient lingered. George was about to call the family from her hotel room to check on his condition when she received a note from them in Spanish. Her patient had died. She returned home without seeing the family again.

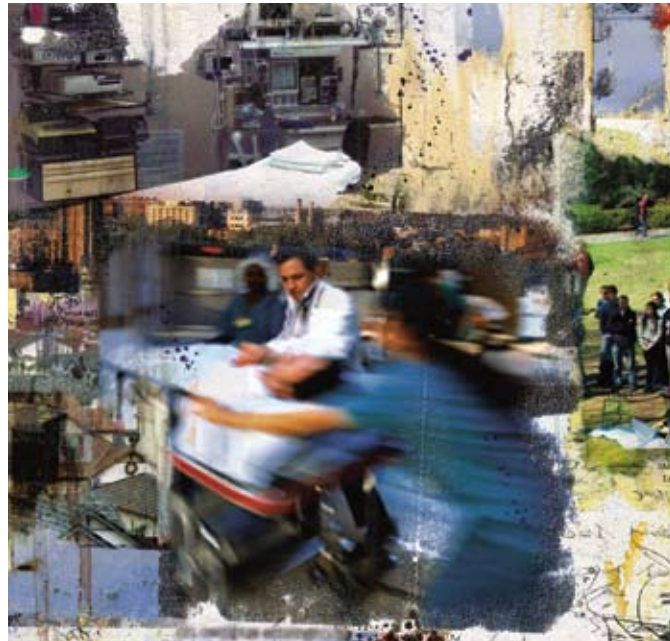
“The trip was both heartwarming and sad,” George says. “It was important for the family to have closure. His wife understood everything every step of the way. If she had been unable to bring him home, she would have had unresolved feelings about his death.”

The journey also affirmed the resident’s decision to train at Grady. “It just reinforced where I want to practice,” says George, who will become an attending physician there next year. “It’s an ideal setting and patient population. And the people there really try to reach out.”—Pam Auchmuty

The doctor is in Physicians from Emory and Children’s Healthcare of Atlanta are writing a weekly health blog for *The Atlanta Journal-Constitution* at AJC.com. Topics include swine flu and other zoonotic diseases, stem cell research, autism, sleep disorders, Alzheimer’s disease, allergies, and more. Visit the site at whsc.emory.edu/r_docblog.html.

An interactive website hosted by CNN features “Expert Q and A with Dr. Sanjay Gupta and Team.” The site features oncologist Otis Brawley and psychiatrist Charles Raison along with Gupta, a neurosurgeon and popular CNN health commentator. To hear from these Emory physicians, visit cnnhealth.com.

Beating back the pandemic devil



As the recent H1N1 (swine flu) virus outbreak proves, speed and collective wisdom are vital in preventing a pandemic. For instance, scientists with the Emory–University of Georgia Influenza Pathogenesis and Immunology Research Center (IPIRC) are studying how the H1N1 virus enters cells, how it is transmitted, and how to interrupt both processes. They also are working to determine whether prior exposure to other influenza viruses may help or hinder response to the new virus, assess possible pre-existing immunity to H1N1 in different age groups, analyze the recovery of infected patients, and begin new vaccine development.

Emory and University of Chicago researchers are testing a new method of producing highly targeted monoclonal antibodies to develop a diagnostic test and a temporary therapy to stave off the H1N1 virus. The antibodies, which can be isolated from a small amount of human blood infected with the virus, could be targeted against H1N1 and rapidly reproduced to detect or attack the virus.

On yet another front, Emory and CDC scientists are using virus-like particles (VLPs) to develop a faster, more efficient

way to make flu vaccine. The current method of growing a vaccine in chicken eggs takes months and would strain the world's vaccine production capabilities should a pandemic occur. The scientists described the effectiveness of a VLP vaccine in mice in the March issue of *PLoS (Public Library of Science) One*.

In their study, mice immunized with nose drops containing VLPs were protected for months against an otherwise lethal infection from H5N1, the influenza variant in birds. VLPs appear to deliver several times more potency per milligram in mice than other types of vaccines. "This extra potency is important because the current egg-grown vaccines require relatively high doses to be effective for most people," says Richard Compans, IPIRC director. "In a pandemic, demand might run up against production capacity. VLPs could offer more bang for the buck."

Keeping T cells young

Patients with rheumatoid arthritis have T cells that are prematurely aged, Emory researchers have found. Reversing this defect could lead to new therapies for the disease.

The T cells' chromosomes are depleted of telomeres, which cap the ends of the chromosomes and grow shorter each time cells divide unless a specialized enzyme replenishes them. Telomeres are believed to be important for healthy aging and cancer prevention. T cells from patients with rheumatoid arthritis have trouble turning on the enzyme

that replenishes telomeres, researchers reported recently.

The enzyme, telomerase, helps prevents loss of genetic information after cell division. Telomerase is active during embryonic development but usually switches off in adult cells. Some cancer cells reactivate it to enable rapid growth. Also, T cells can turn on the enzyme.

T cells in patients with rheumatoid arthritis make 40% less telomerase, says Cornelia Weyand, co-director of the Lowance Center for Human Immunology at Emory. Transferring telomerase into patients' T cells prevented the cells' death, and



doing so could possibly "reset" their immune system.

While the telomerase finding is promising, Weyand says, turning the enzyme on indiscriminately could lead to cancer. Treatments would need to target the right cells, she says.

Living up to a vision

Georgia cancer patients will have greater access to new clinical trials and technologies now that Emory Winship Cancer Institute has become the state's first National Cancer Institute (NCI) Cancer Center.

The new designation marks a turning point for Winship and the 35,000 Georgians who are diagnosed with cancer each year. As one of the nation's 65 NCI cancer centers, Winship will receive an influx of top-tier research funding from federal and private sources. During the next three years, the institute will receive nearly \$4.3 million to grow its scientific research base. As part of their mandate, NCI-designated cancer centers extend the benefits of research directly to patients, their families, and the general public.

Winship's new designation also will boost the state's economy by attracting medical firms, research companies, and physicians as collaborators.

The late Robert Woodruff would be proud of how far Emory has come in cancer care and research. Established in 1937 with a gift from the legendary Coca-Cola CEO, Winship has made good on Woodruff's vision that no one should have to leave Georgia to receive excellent cancer care. And just recently, *U.S. News & World Report* recognized Winship as one of the nation's top 50 cancer centers.



Each year, 35,000 Georgians are diagnosed with cancer.

Epilepsy and cognitive development



Women who take the antiepileptic drug valproate during pregnancy could impair their child's cognitive development, according to a new study.

The Neurodevelopmental Effects of Antiepileptic Drugs (NEAD) study followed more than 300 children born between 1999 and 2004 to women with epilepsy in the United States and the United Kingdom. The women took one of four epilepsy drugs: carbamazepine, lamotrigine, phenytoin, or valproate. At age 3, children of mothers who took valproate had an average IQ six to nine points lower than children exposed to the other three drugs.

"Valproate has an important role in treating epilepsy because some patients' seizures can be controlled only with valproate," says lead study author Kimford Meador, Emory professor of neurology. "However, we are recommending that women with epilepsy try another drug first."

The effects of valproate appear to be dose-dependent, Meador notes, so taking lower dosages more frequently could reduce risk. The study was published in the April 16, 2009, issue of the *New England Journal of Medicine*. Previously, the NEAD study found that valproate also increases the risk of birth defects.



A stroll through an Atlanta supermarket illustrates the awareness consumers have for the promise offered by antioxidants.

Fruit juices, herbal teas, yogurts, even cookies are advertised as containing an “antioxidant advantage” that might strengthen your immune system, fight aging, and lower the risk of various diseases. *Many consumers seem convinced that whether taken in a pill or a glass of juice, the more antioxidants, the better.*

Antioxidants such as vitamins C and E are supposed to soak up free radicals and cushion cells from their damaging effects, known collectively as oxidative stress.

With this idea in mind, doctors designed large clinical studies to test the theory that supplementing the diet with antioxidant vitamins could protect against conditions such as heart disease and cancer. Unfortunately, the theory doesn’t work.

“It appears that much recent research on antioxidants has been misdirected,” says Dean Jones, biochemist and director of the clinical biomarkers lab at Emory. “Studies with thousands of patients over several years keep showing the same thing: free-radical scavengers do little to prevent disease. Yet antioxidant supplements are a multi-billion-dollar industry.”

Jones has been developing an alternative theory:

When it comes to oxidative stress, the focus should be less on free radicals and more on sulfur. Molecules containing sulfur are the body’s most important control points for regulating oxidative stress. Jones’ work is guiding the development of tests to gauge a patient’s risk for conditions such as heart failure and may lead to better understanding of how to supplement the diet with more effective antioxidants targeting sulfur.

Rejuvenating Act

Move over, free radicals. A new theory puts sulfur center stage in understanding how the body responds to oxidative stress.

By Quinn Eastman | Illustration by Richard Borge

Sulfur: the currency of oxidative stress

Why is sulfur so important? Antioxidants come in many forms, but by far the most abundant and important ones are glutathione and cysteine. Both contain sulfur, which gives these compounds the ability to quench oxidants. In fact, sulfur gives them the ability to allow other non-sulfuric antioxidants like vitamin C to quench free radicals as well. When vitamin C absorbs free radicals, for example, glutathione and cysteine use sulfur to cycle the vitamin back to its original unoxidized form. Without sulfur, antioxidants like vitamin C would be inoperative.

“Cells use sulfur to settle their debts in oxidative stress,” says Jones. “Glutathione and cysteine help supply the currency to pay those debts.”

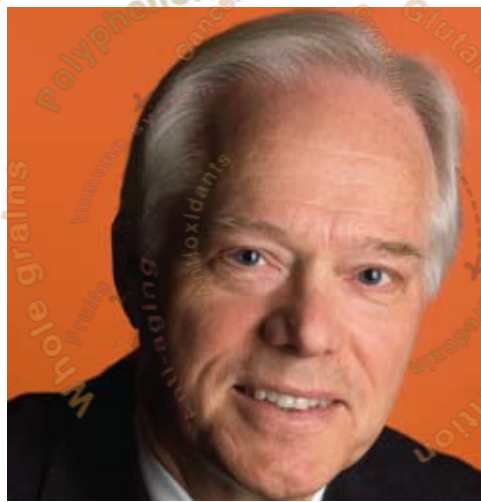
If glutathione and cysteine and their sulfur are so central to countering oxidative stress, why not give these compounds as dietary supplements instead of vitamins? “It’s not that simple,” says Jones. “We’re still trying to sort that out.”

For one thing, glutathione (located inside cells) and cysteine (located outside cells) are important as antioxidants in different parts of the body. Each one comes in two forms: reduced (ready to go) and oxidized (used up). Jones and clinical nutrition expert Tom Ziegler

Antioxidants come in many forms, but by far the most abundant ones are glutathione and cysteine. Both contain sulfur, which gives these compounds their ability to quench oxidants.

have found that oxidized cysteine and glutathione levels rise and fall in daily cycles in response to meals but peak at times several hours apart. They also found that increasing cysteine levels in the bloodstream has little or no effect on glutathione levels inside cells. In addition, glutathione is broken down quickly in the intestines, and once swallowed, it becomes cysteine.

In clinical trials in which patients with heart and



Studies with thousands of patients over several years keep showing the same thing: free-radical scavengers do little to prevent disease.—DEAN JONES, BIOCHEMIST AND DIRECTOR OF THE CLINICAL BIOMARKERS LABORATORY



There are many markers of oxidative stress, but there is little agreement on which ones are useful.—DAVID HARRISON, CARDIOLOGIST AND LEADER IN STUDYING THE RELATIONSHIP BETWEEN OXIDATIVE STRESS AND HYPERTENSION

lung disease took a form of cysteine, it seemed to help in some cases, but the actual dose taken was smaller than the amount of cysteine found in the average diet. Some studies also suggest that giving the body a pulse of cysteine tips the balance toward the less helpful oxidized form, the opposite of what was intended.

Determining the best way to take sulfur-based antioxidants may require careful timing of intake with respect to sleep and meals and calibration of dose depending on age and metabolism. Other nutrients such as zinc, which affects the body’s ability to use cysteine and glutathione, may need to be worked in as well.

In addition to its potential as part of a highly regimented dietary supplement, cysteine has promise as a biomarker for inflammation and heart disease, says Jones. When he and his colleagues exposed white blood

cells in culture to high levels of the less helpful (oxidized) form of cysteine, the cells showed signs of inflammation and displayed “sticky” molecules on their surfaces that would make them more

likely to adhere to vessel walls and form atherosclerotic plaques. It appears that enzymes important for driving inflammation become more or less active depending on the state of the sulfurs on their cysteines, Jones says.

“This is some of our most exciting work,” he adds. “It shows that there’s a direct mechanistic link between oxidative stress, inflammation, and early events in atherosclerosis.”

Measuring oxidative stress

Redefining oxidative stress points the way for cardiology researchers who are trying to develop better techniques to measure oxidative stress in the body.

“There are many markers of oxidative stress, but there is little agreement on which ones are useful,” says cardiologist David Harrison, who studies the relationship between oxidative stress and hypertension.

Focusing on sulfur as a measurement isn’t always practical or affordable. Testing for cysteine and glutathione requires storing samples in a preservative and then analyzing them with a mass spectrometer. And as Jones has shown, looking at glutathione and cysteine is useful but may not tell the whole story.

Measuring free radicals themselves is hard because they exist only for milliseconds. Harrison and colleagues have had success with measuring another form of reactive oxygen, lipid peroxides, which can cause cell injury or generate free radicals. Measuring lipid peroxides is surprisingly convenient, Harrison says, requiring only a finger prick and a bench-top measuring instrument.

Collaborators Jones and cardiologist Sam Dudley have shown that levels of both lipid peroxides and oxidized cysteine provide strong indicators of patients’ risk of cardiac arrhythmias such as atrial fibrillation.

Jones believes that the best measurements of a patient’s oxidative stress level will include a profile of several different markers. “The goal is to develop a profile comparable in practicality and affordability to that used to determine whether one needs anti-cholesterol medication,” he says. “Having such a profile for oxidative stress and a protocol for how to respond could potentially prevent or forestall many kinds of illnesses and save many lives.” **EM**

ONLINE: To learn more about Dean Jones’ patent behind *Sucrets Defense*, a lozenge that contains glutathione, visit whsc.emory.edu/_pubs/hsc/winter08/index.ehtml.

To learn which food compounds affect cancer prevention and treatment, listen to Emory’s Sound Science podcast with researcher Omer Kucuk at whsc.emory.edu/soundscience.

Back to the Mediterranean

Instead of taking supplements found in pills, the best way to reduce oxidative stress may still be a diet rich in fruits, vegetables, and whole grains.

Viola Vaccarino, who leads Emory’s cardiovascular epidemiology research group, and former doctoral student Jun Dai, now a faculty member at Indiana University, recently studied the connection between diet and oxidative stress in a group of approximately 300 twins.

Studying twins allowed the scientists to separate out genetic influences and factors from environmental ones.

The twins’ diets were scored for how closely they resembled the classic Mediterranean diet, which includes large amounts of fruit, vegetables, whole grain breads, fish and poultry, small or moderate amounts of dairy products, and small amounts of red meat.

The higher their Mediterranean diet score, the lower the twins’ oxidative stress levels—as measured by the proportion of oxidized glutathione—tended to be.

Dai and Vaccarino point out that their study did not gauge the effects of participants’ consumption of specific fruits or vegetables or the antioxidants in them. The idea that certain antioxidants are responsible for the Mediterranean diet’s protective effects needs further testing.

The proportion of cysteine-rich legumes, sources of fats, and amount of fried foods may also influence oxidative stress, Dai adds.—*Quinn Eastman*



VIOLA VACCARINO
STUDIES CARDIOVASCULAR
EPIDEMIOLOGY.



The Perfect Storm

Too often, patients become sicker because they can't understand doctors' instructions. **Ruth Parker sees a dark cloud coming unless physicians address low health literacy.**

By Martha Nolan McKenzie

Ruth Parker was working at Grady Memorial Hospital when a patient in his 60s was admitted with a severe leg infection. His chart showed that he had visited the ER twice in the past two weeks for the problem and was given antibiotics, but the infection continued to worsen.

For Parker, a professor of medicine at Emory, it was a red flag. After gently questioning the patient, she discovered he wasn't sure what he was supposed to do with the antibiotics he was given during the previous ER visits and didn't want to bother anyone by asking. He just filled the prescription and kept the pills in his pocket. He hadn't taken a single one.

"Incidents like this happen all the time and not just at Grady," says Parker.

Indeed, studies have shown that nearly half of all American adults—90 million people—have difficulty understanding and acting upon health information. Many lack the necessary vocabulary to comprehend their physician's instructions and the literacy skills to read the instructions on their prescriptions. The impact of low health literacy is extremely costly on the national level and devastating on a personal one.

"Health literacy is like your currency for negotiating the health care system," says Parker. "If you have low health literacy, you are more likely to use the ER, more likely to be hospitalized, and less likely to use preventive services."

Yet most health care providers remain unaware of the problem. "It's embarrassing for patients," says Parker. "They don't come out and say, 'I don't understand what in the heck you are telling me to do or what this pamphlet means.' As a result, most of us in the health field still don't realize that many of our patients struggle to understand what it is they need to do, and we certainly don't practice medicine like that's the reality."

Parker is working to change this scenario. Since stumbling on the issue almost 20 years ago, she has emerged as one of the nation's leading experts on health literacy. She co-authored the first published study of functional health literacy and helped develop the measuring tool now routinely used in studies. She currently consults with the FDA on an initiative to standardize and simplify instructions on pill bottles.

"As the investigator of one of the first studies showing the prevalence of low health literacy and the correlation between low health literacy and poor health outcomes, Ruth helped define the issue," says Joanne Schwartzberg, director of aging and community health for the American Medical Association (AMA) and senior adviser on health literacy for the AMA Foundation. "Since then, she has pushed the issue everywhere."

Thanks largely to Parker's efforts, health literacy is emerging from the shadows. At Emory, the Health Literacy Working Group draws participants from the health sciences, Morehouse School of

Medicine, Georgia State University, and state adult educational organizations to share information and seek funding. Emory's medical school routinely introduces the topic in class and clinic settings, hoping to inform the next generation of physicians.

"Emory does a good job making sure we understand the issue," says David Gutteridge, a 2011 MD candidate. "As a result, I've built some checks and balances into my actions to make sure the patient understands

what I'm talking about. I ask them to tell me what they have understood about how they are supposed to take a medicine. I'm trying to open the door for them to ask me more questions."

Across the nation, health literacy is beginning to get its due. Last year, the Association of American Medical Colleges began to set curriculum guidelines to make sure health literacy is addressed in all medical schools. Efforts are under way to include it on the national licensing test. And two senators introduced the National Health Literacy Act of 2007, though the bill did not make it to committee.

Parker is pleased with how far the issue has come but cautions that much remains to be done, particularly in light of future demographics. According to an article Parker recently co-wrote, U.S. literacy skills are expected to worsen by 2030, based on trends in immigration, birth rates among illiterate women, and employment.

"We have some pretty powerful people today who are paying attention to health literacy, so I'd have to say I'm optimistic," says Parker. "But demographically, if we don't address it, we are going to end up in a bad place. If we don't change the direction in which we're headed, we're brewing the perfect storm." **EM**



Health literacy is like your currency for negotiating the health care system. If you have low health literacy, you are more likely to use the ER, more likely to be hospitalized, and less likely to use preventive services.—RUTH PARKER, PROFESSOR OF MEDICINE



The Right Recipe

A new microparticle-drug combination may be key to reducing inflammation caused by heart attack and other diseases

After simulating heart attack in rats, biomedical engineer Michael E. Davis found that injecting their hearts with microparticles containing a p38 inhibitor drug reduced formation of scar tissue by 70% to 80% and improved heart function by at least 20%.

By Kay Torrance | Illustration by Carol Hatcher

Researchers believe that a number of anti-inflammatory drugs, if delivered directly into the heart following heart attack, could prevent permanent damage and prolong heart function. The challenge, however, is finding an effective way to deliver the drugs. Some drugs require such large doses that toxicity becomes a risk. Others must be injected daily. Certain drug delivery methods themselves can cause inflammation.

An Emory research team believes it has found the right recipe of ingredients to one day make safe, effective drug-laden microparticles for heart attack patients.

The team, led by biomedical engineer Michael E. Davis, found that injecting animal hearts with microparticles formulated with the polymer PCADK—poly(cyclohexane-1,4-diylacetone dimethylene ketone)—improved cardiac function after simulated heart attack. Unlike other “carrier” molecules, PCADK degrades into

two benign substances: 1,4-cyclohexanedimethanol, an FDA-approved food additive, and acetone, an endogenous compound.

Inside the polymer beads was an experimental drug, SB239063, a p38 inhibitor. P38 is a protein kinase that regulates the production of inflammatory mediators. It also plays a role in the death of myocardial cells. The polymer bead containing the drug stayed in the heart and slowly dissolved, allowing sustained release of the drug to suppress p38 activation for at least seven days.

An injection of just the drug didn’t work though; it likely diffused away too quickly.

“The drug releases at a rate that is dependent on the breakdown of the particle,” says Davis. “As the particles break down and are hydrolyzed, the drug is released. In our study, half of the drug was released in about seven to 10 days.”

In contrast, the team also tested another carrier molecule, a glycolic acid known as PLGA. PLGA broke down into lactic acid and caused an increase in p38.

“Since PLGA is a standard for drug delivery and one of the only clinically approved polymers, we used that target,” says Davis. “But there’s a reason why it’s not used for heart disease. Anyone who has run or worked out too much can tell you how bad lactic acid is. It hurts. These PLGA particles degrade into lactic acid, which is not good when you already have an inflammatory response resulting from heart failure. That’s the big difference in this study—neutral degradation products versus acidic degradation products.”

When Davis and his team looked at heart function in rats injected with the PCADK beads seven days after induced heart attack, they found no real improvement.

Three weeks later, however, heart function had significantly improved.

“We think this difference is explained in that myocardial infarction causes significant damage in the first 24 to 48 hours,” Davis says. “The half-life of our particle is about seven days, so it is likely that the inhibitor was not released fast enough to affect heart function at the seven-day mark.” Overall, the microparticles reduced formation of scar tissue by 70% to 80% and improved heart function by at least 20%.

Microparticles have had limited use in the treatment of inflammatory disease because traditional delivery methods and their by-products caused the very thing they were supposed to limit—inflammation. Davis and his team found that PLGA (a polyester approved for use in sutures and grafts) did cause inflammation, but that PCADK did not. “PCADK has the potential to be used to deliver other kinds of anti-inflammatory drugs for other diseases,” says Davis, whose study results were published in *nature materials* (October/November 2008). In the future, he hopes the microparticle-drug combination could be used clinically to treat diseases of the liver, lungs, and spinal cord as well as the heart. **EM**

New-Age Home Companion

A robot named EL-E may provide greater independence for patients with limited motor function

By Dorothy Brooks

Putting robots at the disposal of patients with significant motor impairments not only could help them maintain their independence but also help relieve physical and financial burdens faced by caregivers.

In fact, such an innovation may only be a few years away from reality thanks to a project involving clinicians at Emory's School of Medicine and engineers at Georgia Tech. Together, they developed a robot that can perform simple tasks such as opening drawers and retrieving objects. Dubbed EL-E (pronounced "Ellie"), the 5½-foot-tall machine glides across the floor on wheels and takes direction from a laser pointer that users can control in a variety of ways, depending on their preferences and capabilities. The name refers to EL-E's arm, which moves like the trunk of an elephant.

Biomedical engineers are adding more functionality to the robot all the time by taking their cues from patients and clinicians who help them understand what types of movement and capability are needed. The resulting synergy from this working model has been a bit of a revelation to both engineers and clinicians.

"As physicians, we often don't realize what engineers can invent and create. Many of us who work in hospitals and clinics basically use equipment and machines that are off the shelf and don't necessarily work with the specific needs of our patients," says neurologist Jonathan Glass, director of Emory's ALS Clinic. "This is different. By working directly with the people who are designing these robots, we can create products that will be very useful and potentially life-changing for patients."

Likewise, Charlie Kemp, who directs the Healthcare Robotics Lab at Georgia Tech, depends on Glass's guid-

ance to make sure that EL-E offers the most functionality for patients.

One of the most important insights he has gained is that there is considerable variation in how patients prefer to communicate with the robot. "To some extent, we know that if people lack dexterity in their hands, they're going to be more likely to prefer to use a head-mounted laser pointer, and if they have high dexterity in their hands, they're going to be more likely to prefer a hand-held laser pointer. But in the end there is still significant user preference," he says. "What that means is that we should really be looking to develop technologies that can support lots of different user preferences easily and flexibly."

Thus far, Kemp's lab has designed interfaces that enable patients to control the robot through a hand-held laser pointer, a head-mounted laser pointer that is controlled through head movements, and a touch screen. Additionally, scientists are now taking advantage of speech recognition technology so that patients can give the robot verbal commands. The idea behind this approach is to model the robot after service dogs that are typically trained to understand fewer than 100 words. Kemp suggests that equipping the robot to respond to these same verbal cues is well within the capabilities of current technology.

Robots can't offer the warmth and companionship that service dogs provide, but they don't need to be fed and watered and can operate 24/7. Further, Glass points out that there is a long waiting list for service dogs, which are expensive to train. He expects that by the time the robot is fully developed and mass produced, it will be no more expensive than a motorized wheelchair.

Only a handful of patients from the ALS Clinic have had the opportunity to interact with the robot in a simu-



By working directly with the people who are designing these robots, we can create products that will be very useful and potentially life-changing for patients.

—JONATHAN GLASS, DIRECTOR OF EMORY'S ALS CLINIC



I push a button on a little hand remote and shine the laser on a telephone that is on the table. The robot then tells me to look into its eyes, and it brings the phone to my hands.—ALS PATIENT NORMA MARGESON (PICTURED)



lated living room set up in Kemp's lab, but their response has been overwhelmingly positive. "It's exciting to watch it work. I am just amazed," says Norma Margeson, a Marietta, Georgia, resident who was diagnosed with ALS (amyotrophic lateral sclerosis) in 2006. "I push a button on a little hand remote and shine the laser on a telephone that is on a table," she says. "The robot then tells me to look into its eyes and it brings the phone to my hands."

The robot has an arm equipped with sensors so that it can determine not only how and where to retrieve items but also when to loosen its grasp. "When I would take hold of the phone, it would know that I had it and let it go," adds Margeson.

More studies are planned in the lab, but Glass is eager to see whether the robot is sophisticated enough to negotiate the intricacies of a home environment—a milestone that is probably a year or two away. And he would like to see the robot perform more fine-motor movements. "Making this robot pick up a cup with a straw in it and hold it up to somebody's mouth so that they can drink from it—that would be very useful," says Glass. "I am just a dreamer here. But what I have realized is that when I dream, Charlie says 'yes, we can do that.' Working with the engineers at Georgia Tech has been an extraordinary experience for me and my patients." **EM**

ONLINE: To learn more about the EL-E robot, visit the Healthcare Robotics Lab at hsi.gatech.edu/hrl/.

Gifts & Support

Seeking a cure for Parkinson's and other movement disorders



Mary Louise "Lou" Brown Jewell

KAY HINTON

For most of his life, Worley Brown was a savvy businessman with a booming voice familiar to those who knew the Rock-Tenn Corporation CEO. But in the years preceding his

Mary Louise "Lou" Brown Jewell.

When her late husband was diagnosed with Parkinson's, Jewell was relieved that he did not have a brain tumor. But

I want Emory to be one of the leading research institutions where they can discover what causes Parkinson's and what causes Lewy body dementia.—MARY LOUISE "LOU" BROWN JEWELL

death in 1997, Brown lost his ability to think and speak as he struggled daily with Parkinson's disease.

"To know the wonderful vibrant person he was and to see how the disease robbed him of that was devastating," says his wife,

her hopes faded as the disease progressed. He also suffered from Lewy body dementia, a more progressive form of Parkinson's that affects memory and the ability to reason and carry out simple actions. It also causes hallucinations.

In addition to Brown's illness and death, Jewell endured the loss of her mother as a result of amyotrophic lateral sclerosis or ALS.

Jewell's experiences led her to make a \$2 million pledge to establish the A. Worley Brown Chair in Neurology and donate \$500,000 to renovate the A. Worley Brown Family Parkinson's Disease Clinical Research Unit at Wesley Woods. Both contributions are the lead gifts for an endowment to raise funds for research, service, and education in neurology for Parkinson's and other movement disorders.

Both gifts are also part

of Campaign Emory, the university's \$1.6 billion fund-raising initiative launched publicly last September. Begun quietly in 2005, Campaign Emory encompasses schools and units across the university, including the School of Medicine. As of early June, the school had raised \$302 million toward its \$500 million goal to garner resources to recruit and retain faculty, construct and equip new research facilities, increase student scholarships, and expand research to improve patient care.

The School of Medicine has built momentum aided by volunteer leaders like Ada Lee and Pete Correll, the former serving as the school's campaign chair. Impressed by the care they received from Emory physicians, the couple invested in Emory by supporting scholarships and faculty research and teaching through the Correll Foundation. They also chaired the drive to fund the medical school's new building.

In addition to the Corrells, the school has received support for Campaign Emory from a number of donors, including Rex Fuqua, president and CEO of Fuqua Capital Corporation, for treat-

ment of depression; the late Andrew McKelvey, founder of Monster.com, for research and patient care in lung transplantation; Atlanta philanthropists Lou and Tom Glenn for breast cancer research; Charles Brady, INVESCO co-founder, for frontotemporal dementia research; and John Brock, Coca-Cola Enterprises chairman and CEO, for cancer nanotechnology research (see story at right).

Jewell shares a bond with these and other donors committed to advancing the detection and treatment of disease. In her case, she is helping develop a comprehensive center for Parkinson's disease.

"I want Emory to be one of the leading research institutions where they can discover what causes Parkinson's and what causes Lewy body dementia," she says. "I want there to be a cure, and through the research being performed at Emory I feel that can be accomplished."

—Maria Lameiras and Pam Auchmutey

ONLINE: To learn more about how to support the School of Medicine through Campaign Emory, visit campaign.emory.edu/schools-and-units/.

Powering up to advance cancer nanotechnology

Thanks to John Brock, his wife Mary, and their three children, two endowed faculty chairs at Emory Winship Cancer Institute and Georgia Tech will support research in cancer nanotechnology. The family, together with the Georgia Research Alliance and the Georgia Cancer Coalition, made the gifts total-

ing \$6 million in honor of John's mother, Anise McDaniel Brock, who died of cancer in 2007. Although she never smoked and followed a healthy lifestyle, she was diagnosed with lung and colon cancer in 2006. She was treated primarily in Mississippi until her family brought her to Emory.

Following her death, the Brock family looked for ways to help researchers develop new leads in the early detection and treatment of cancer. A Georgia Tech alumnus, Brock talked with cancer researchers and physicians at Emory and Georgia Tech about their nanomedicine research program. He also worked with the Georgia Cancer Coalition and the Georgia Research Alliance to enhance the value of his donation. The result is the Anise McDonald Brock Chair and Georgia Research Alliance Eminent Scholar in Cancer Nanotechnology at Emory, with a second chair at Georgia Tech.

Brock points to the care his mother received at Emory Winship and the strength of the joint research programs at Emory and Georgia Tech as the inspiration behind his family's gift. "My mother was a caregiver in her community," he says. "She would be thrilled that some value can be created in the search for better ways to manage cancer."



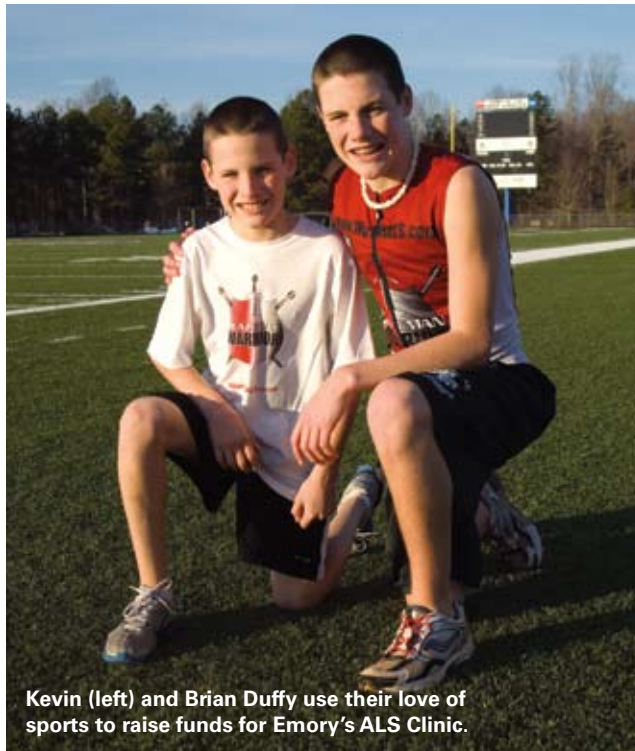
John and Mary Brock

THE COCA-COLA COMPANY



Gifts & Support

Running strong for ALS



Kevin (left) and Brian Duffy use their love of sports to raise funds for Emory's ALS Clinic.

KAY HINTON

partners with the Muscular Dystrophy Association (MDA) of Georgia and the ALS Association of Georgia. Research at the clinic focuses on basic mechanisms of motor neuron degeneration, genetics of ALS, and new experimental treatments. The clinic also provides care to ALS patients and their families.

Demand for care has increased dramatically since the center was named an MDA regional network clinical research center, one of five in the country and the only one in the Southeast. Jonathan Glass, the clinic's director, looks to volunteers like Karen Duffy to help support ALS patients and their families.

"These volunteers provide a link to the community and let people know how important and special this center is," says Glass. "Brian's efforts are what really started this, and he and his brother are amazing kids. They exemplify what people really can do to make an impact."

Now a rising sophomore at South Forsyth High School north of Atlanta, Brian runs cross-country and is on the swim team. He often has to explain ALS to his classmates when they see the "Cure for ALS" bumper sticker on the family car.

"My goal," he says, "is to have ALS become as well known as other diseases, so people will become more aware of it and do more to help find a cure."—*Maria Lameiras*

After being inspired by two athletes cut down by a devastating disease in their prime, teenager Brian Duffy and his family have raised more than \$17,000 for research and programs at Emory's ALS Clinic.

Brian first learned about amyotrophic lateral sclerosis (ALS), or Lou Gehrig's disease, in 2005 after watching the Ironman Triathlon from Hawaii. That year racer Jon Blais became the first person with ALS to complete the race. A year later, Blais was in a wheelchair. Less than two years after his diagnosis, he died.

At the end of a news story on Blais, Brian told his parents, Karen and Mike Duffy, that he wanted to help. With their support, he began a letter-writing campaign in 2006 and raised more than \$2,200 that year. His parents ran triathlons, and his younger brother, Kevin, a golfer, sold golf balls to raise money. But for Brian, it wasn't enough.

At his urging, the family held its first annual "Run for Life 5K—A Race to End Lou Gehrig's Disease" in 2006. The third annual race was May 2, 2009—the same day that Lou Gehrig took himself out of the New York Yankees lineup in 1939 because of the disease.

All proceeds support the Emory ALS Center, which

Straight from the heart for HIV/AIDS

The powerful bond between parent and child is advancing the study of potential treatment targets for HIV/AIDS.

Last year, Concerned Parents for AIDS Research (CPFA), a New York-based group of parents, some of whom have lost children to AIDS, contributed \$250,000 to the Emory Vaccine Center. The seed grant made it possible for Emory and Harvard to collaborate on studies of a protein that inhibits the immune response to chronic infectious diseases like HIV.

Two years ago, Emory and Harvard scientists discovered that the immune inhibitor protein PD-1 (programmed death-1) helps switch off the immune response to chronic infectious diseases, resulting in apparent "exhaustion" of the T-cell response.

Thanks to the seed grant, the National Institute of Allergy and Infectious Diseases awarded a \$13 million, five-year program project grant, allowing Emory and other scientists to focus on PD-1 and its role in HIV and other chronic viral infections.

Andrew Lipschitz, medical director of CPFA, believes that future success in stopping HIV/AIDS depends on sharing resources. "Our initial grant made sense because Emory had certain techniques and equipment that Harvard did not and vice versa," he says. "By sharing

their ideas and technology, Emory and Harvard were able to increase their understanding of PD-1 and qualify for the NIH grant, which will enable more collaboration and help scientists move more quickly to find treatments and cures for HIV."

With the NIH grant, the research team now includes scientists from Emory, Dana Farber Cancer Institute, Harvard Medical School, Massachusetts General Hospital, New York University, the University of Montreal, and the University of Pennsylvania.

They plan to identify new targets, pathways, and drugs that could aim for PD-1, turn off this protein, reactivate the immune response, and possibly clear HIV infection.

There may be other benefits as well. "Our work has clear implications for the treatment of tumors and autoimmune diseases and for increasing the success of transplantation," says Rafi Ahmed, project leader and Emory Vaccine Center director. Ahmed also is a new member of the National Academy of Science.—*Holly Korschun*



Rafi Ahmed, director, Emory Vaccine Center

The road to healthy sexuality



Knowing when to start talking about sex and what to say is not a simple issue. From individual families to churches and schools, a debate swings between "too much too soon" and "too little too late."

Emory's Jane Fonda Center is working to get past the controversy by building programs that put an emphasis back on the core needs of young people from 6th grade on.

"Becoming sexual is evolutionary, involuntary, and inevitable," says Melissa Kottke, the center's director. "However, becoming a healthy sexual being is not. Today, we must start at a younger age than ever before to help young people make smooth transitions to adulthood."

Using a \$500,000 grant from the Ford Foundation, the Fonda Center is conceptualizing a new framework for thought and action regarding sex education, which includes ways to partner with youth. Center staff are planning regional meetings among professionals interested in sex education and a nationwide youth retreat. The impetus behind the planning is to lay a foundation among young people for respect and responsible action, says Kottke. "Early on young

people must learn to respect their bodies as well as their rights and the rights of others to be free from pregnancy and infection."

Another grant of up to \$1 million from the Robert Wood Johnson Foundation (RWJF) is allowing the Fonda Center to teach youth how to develop healthy relationships and prevent intimate partner violence.

According to a 2007 Georgia Department of Human Resources report, one of every six high school students was hit, slapped, or physically hurt on purpose by a boyfriend or girlfriend during the prior 12 months. The Fonda Center is offering a dating violence prevention program to 7th graders in the Atlanta Public Schools, supported by an RWJF national social marketing campaign and multiple partner agencies who are banding together to help teens mature safely and responsibly.—*Rhonda Mullen*

A Beautiful Life

Healer, humanist, teacher, scholar: John Stone

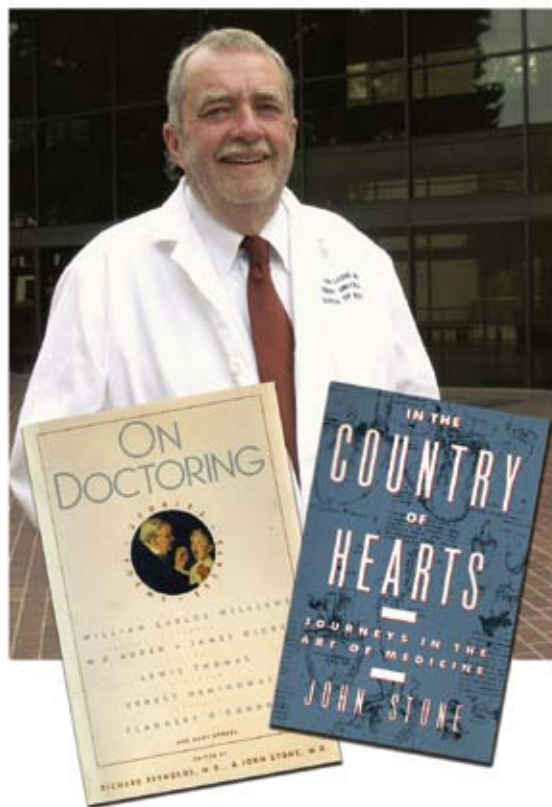
Poet-physician John H. Stone III, who found joy in medicine, the arts, family, and people from all walks of life, died of cancer on November 6, 2008. He was 72.

As a cardiologist, teacher, mentor, and writer, Stone focused his entire career on matters of the heart, memorialized in his books of poems and essays in which he explored the link between medicine and literature.

Stone was beloved by many for many reasons—his humor, his listening skills and ability to inspire listening in others, his traditional Veteran's Day readings of WWI poems, the poem he was asked to write for Emory President James Wagner's inauguration, and his teaching by example of the healing power of kindness.

He used to say that he wore a "double harness" of literature and medicine, an easy fit because both are centered on the human story. His own human story was filled with accomplishment, recognition, even celebrity. He was a perennial favorite as a speaker at medical graduation and other events, and his two-man show with Emory music professor William Ransom, "The Poet and the Pianist," performed at Emory alumni events all over the country, made it all the way to Carnegie Hall in 2001.

Stone joined the faculty in 1969 after completing an Emory fellowship in cardiology. He spent the first half of his career at Grady Memorial Hospital, where he



ANN BORDEN

founded and directed the residency program in emergency medicine, now a department. He pulled from his experiences to co-edit *Principles and Practices of Emergency Medicine* (1978), the first comprehensive textbook in the specialty.

For his last 19 years on the faculty, Stone was associate dean for admissions. He achieved popularity and success as a teacher, receiving the school's best clinical professor award several times. He also received the Thomas Jefferson Award, the university's top award for service, leadership, and achievement—one of numerous scholarly honors from various schools.

As a writer, Stone is perhaps best known for *On Doctoring: Stories, Poems, Essays* (1991), an anthology of literature and medicine that he co-edited with Richard Reynolds, former executive vice president of the Robert Wood Johnson Foundation. Every U.S. medical student

has received a copy since it was published as a gift from the foundation. "Through his co-editing of *On Doctoring*, John made tens of thousands of America's medical students better human beings," says Emory emergency medicine physician Arthur Kellermann 80M, one of Stone's former students.

William Eley 83M was a fourth-year medical student when he and two friends trooped to Stone's office to ask him to teach the first medical humanities course at Em-

ory. Thus, in 1983, Stone created one of the first courses combining literature and medicine. He also taught the course for several years at England's Oxford University as part of Emory's Summer Studies Program.

"The literature allowed us to discuss things that we all faced," says Eley, who now oversees medical education and student affairs. "John turned out to be the 'heart' of our medical school. He was where we smiled, cried, rejoiced, and were comforted."

A writer since 8th grade, Stone began his literary career with *The Smell of Matches* (1972), which won an award from the Georgia Writers Association. Another book of poems, *Renaming the Streets* (1985), won the Literature Award from the Mississippi Institute of Arts and Letters. In all, Stone wrote five books of poetry and a book of essays, for which he was inducted into the Georgia Writers Hall of Fame in 2007, the same year as novelist Ferrol Sams 45M. A lover of music, Stone wrote the libretto for *Canticles of Time*, a choral symphony that won the Music Award of the Mississippi Institute of Arts & Letters in 1991.

The grandson of a general practitioner, Stone was reared in Jackson, Mississippi. Both of his sons became physicians—James 01M at Emory Johns Creek Hospital and John 85C at Massachusetts General Hospital. Their mother, Lu 85G, died in 1991. Stone's second wife, Mae, worked with him at Emory and after his retirement continued to shape his life so he could write.

Those who knew Stone were accustomed to seeing his front pocket bursting with 3x5 index cards full of notes about any and everything. The cards allowed him to capture what he loved most: listening to others, especially his patients.

"Most patients are ambiguities, living and breathing ones," said Stone in a convocation address to Emory freshmen in 1981. "The patient is ambiguous because the patient is his own art... Like art, the patient does not tell all that he has to say at the first sitting. The more we look [and listen]... the more there is to see and hear."—Kay Torrance, Pam Auchmutey, and Sylvia Wobel

In 2005, the Department of Emergency Medicine established the John Stone Fund for Emergency Medicine to honor his talents as a teacher, clinician, and residency program founder. The fund, which Stone also supported through a bequest, will be used to honor and advance gifted educators in the department. Memorial contributions may be sent to Anne Stainback, Emory University, 1440 Clifton Road N.E., Atlanta, GA 30322.

In his poem *Gaudeamus Igitur* (*Therefore, let us rejoice*), John Stone captures the essence of listening to the patient. The poem, excerpted here, appears in *Renaming the Streets* (1985) and *Music From Apartment 8: New and Selected Poems* (2004).

GAUDEAMUS IGITUR

For you may need to strain to hear the
voice of the patient

in the thin reed of his crying

For you will learn to see most acutely out
of the corner of your eye

to hear best with your inner ear

For there are late signs and early signs

For the patient's story will come to you
like hunger, like thirst

For you will know the answer

like second nature, like first

For the patient will live

and you will try to understand

For you will be amazed

or the patient will not live

and you will try to understand

For you will be baffled

For you will try to explain both, either,
to the family

For there will be laying on of hands
and the letting go

For love is what death would always
intend if it had the choice...

2008 Alumni Honors

Every year, some 3,000 babies are born at the Inman Pavilion for Women in Albany, Ga. The pavilion is part of Phoebe Putney Memorial Hospital, where **John Inman Jr. 45M** began delivering babies in 1952.

A longtime community leader in Albany, Inman still has strong ties to Emory. He serves on the Board of Advisers for the School of Medicine and has chaired a number of fund-raising drives. He provided funding to name the gate over the walkway leading to the Miller-Ward Alumni House in honor of his family and provided the lead gift to raise \$150,000 to name the historic stairwell in the Charles F. and Peggy Evans Anatomy Building for the Class of 1945. For his many efforts, Emory honored him in 2000 with the J. Pollard Turman Award and again in 2008 with the Arnall Patz MD Lifetime Achievement Award, one of three annual awards presented by the Medical Alumni Association. The Patz Award bears the name of the ophthalmologist who saved the eyesight of millions of babies after discovering retinopathy of prematurity.



Willa and John Inman 45M



Arthur Kellermann 80M

Arthur Kellermann 80M is known for taking his concerns right to the top. Two years ago, as a Robert Wood Johnson Health Policy Fellow in Washington, he helped write a report to Congress highlighting problems and fixes for the nation's emergency care system. Upon returning to Emory, he resumed teaching and caring for ER patients at

Grady Memorial Hospital and became associate dean for health policy in the School of Medicine. For these and other accomplishments, Kellermann received the 2008 Award of Honor from the Medical Alumni Association.

Since joining Emory in 1993, Kellermann established the Center for Injury Control, helped found the Department of Emergency Medicine—which he chaired from 1999 to 2007—and was elected to the Institute of Medicine. He continues to advocate on behalf of uninsured patients at Grady and for improved disaster preparedness in emergency rooms. A popular speaker, he addressed Emory medical school graduates in 2008.



W. Virgil Brown (right)

W. Virgil Brown 58Ox 60C once told a group of researchers you could do anything if you know how to run a farm. The Georgia native has held fast to his rural roots during a 40-plus year career for which the Medical Alumni Association honored him with its 2008 Distinguished Medical Achievement Award.

As president of the American Heart Association in the early 1990s, Brown helped raise public awareness about heart-healthy menu items. He joined Emory to direct the arteriosclerosis and lipid metabolism section at The Emory Clinic and subsequently became the Charles Howard Candler Professor of Internal Medicine. Through his research, he helped define how lipase enzymes break down triglycerides for removal from the bloodstream and furthered understanding of how diet and medications alter lipoprotein metabolism to correct high cholesterol. Brown recently retired as chief of the medical specialty care service line at the Atlanta VA Medical Center.

OUT OF THIS WORLD



Smith Johnston 81M

His patients are from outer space. But they are of the human form, and on returning to Earth, they find **Smith Johnston 81M** waiting for them.

A medical officer and flight surgeon for NASA at the Johnson Space Center in Houston, Johnston is one of the top guys responsible for astronauts' health—before, during, and after flights. He has to make sure that any flight candidate is healthy enough to withstand the immense physical toll on the body caused by weightlessness in outer space.

"We take the healthiest people in the world and put them in one of the most hazardous environments," says Johnston. "I think of myself as running the ultimate preventive medicine clinic."

When a space shuttle is in flight, Johnston sits in mission control to monitor the astronauts during

their awake hours. (No easy feat since it takes two years to become certified to sit in mission control.) Astronauts lose 1% to 2% of their bone mass each month and 15% of their blood volume during a mission. Kidney stones are a common problem, as are skin rashes from the lack of showering. (Astronauts also have to swallow their toothpaste.) They often face decompression sickness after space walks and upon their return to Earth.

Johnston developed screening standards for scientists to work at the South Pole for the National Science Foundation. Conditions are so extreme eight months of the year that no one can be evacuated should a medical emergency occur. Workers there also suffer sleep disturbances and vitamin D deficiencies, as the sun never rises for many months of the year.

The flight surgeon has worked in a number of places, including Russia and Kazakhstan, where the front end of a space capsule overheated and caused a huge brush fire upon landing. "We thought we had lost the astronauts, but luckily they were okay," Johnston says.

The Kazakhstan incident brought to mind the seven astronauts who died aboard the Columbia space shuttle, which disintegrated on its return to Texas in 2003. Johnston recently traveled to Israel to observe the February 1st anniversary of the death of Ilan Ramon, the first Israeli astronaut, who was aboard the flight.

Despite the risks, Johnston would serve as an astronaut on a mission, given the opportunity. "But it's a young person's game," he says. He looks forward to the day when the Orion, a new Apollo-shaped craft for lunar travel, replaces the space shuttle in about 2015 and when astronauts travel to Mars (at least a year's trip to and from the planet).

For a medical school graduate who seemed to like every specialty, Johnston found the right one. After completing a residency at the NASA-sponsored aerospace medicine program at Wright University in Ohio, he joined the Johnson Space Center in 1991.—*Kay Torrance*

Class Notes

alumni news



William Waters III 58M

1950s

John Collette 56M was honored as a Healthcare Pioneer by the Florida Hospital DeLand. He was one of the first physicians with the hospital when it opened in 1962.

William Waters III 58M wrote *Two Days That Ruined Your Health Care—And How You Can Provide the Cure* (2008). His fourth book offers a humorous, succinct, and practical look at what's wrong with U.S. health care and offers a remedy. A fifth book, *Ben's Ailment*, is in the works. Waters directs the internal medicine division at the Multiple Sclerosis Center of Atlanta.

1960s

Charles Harrison Jr. 60M joined the internal medicine department of the Multiple Sclerosis Center of Atlanta. He continues to serve on the Emory clinical faculty.



Charles Harrison Jr. 60M

Albany Technical College dedicated the Charles B. Gillespie, M.D., Center for Emergency Responders, which houses the school's fire science, EMT, paramedic, and law enforcement programs. The center is named for retired orthopaedist **Charles Gillespie 61M**, who established Albany Tech's EMT training program in 1972. He also led formation of Georgia's Emergency Medical Services.

Herbert DuPont 65M received the Laureate Award at the 2008 annual meeting of the Texas Academy of Internal Medicine. The annual award honors a physician for excellence in medical care, education, research, and community service.

Bruce Baumgartner 69M is a fellow of the American College of Radiology. He is professor, education vice chair, and director of the Emory residency program in radiology.



Herbert DuPont 65M

1970s

In his second novel, *Slow Funeral* (2008), **Charles Gershon 74M** spins a tale of corporate espionage around a 45-year-old surgeon named Jack. The author practiced urology in Atlanta before retiring to Asheville, N.C. His first novel, *The Hydrangea People*, debuted in 2002.

Richard Holm 75M was named governor of the South Dakota chapter of the American College of Physicians. He is a professor at the Sanford School of Medicine, University of South Dakota, and an internist at the Avera Brookings Medical Clinic. He is also chief of staff and chair of the ethics committee of the Brookings Health System.

Frederick Turton 77M is chair-elect of the American College of Physicians Board of Regents. He is an internist in private practice in Sarasota, Fla.



Camille Davis-Williams 81M

1980s

Camille Davis-Williams 81M was named co-physician of the year for 2008 by the Atlanta Medical Association. A gynecologist/obstetrician, she also received a 25-year service award from the association.

Carlton Clinkscales 89M was voted one of the top hand surgeons in Denver by 5280, the city's magazine.

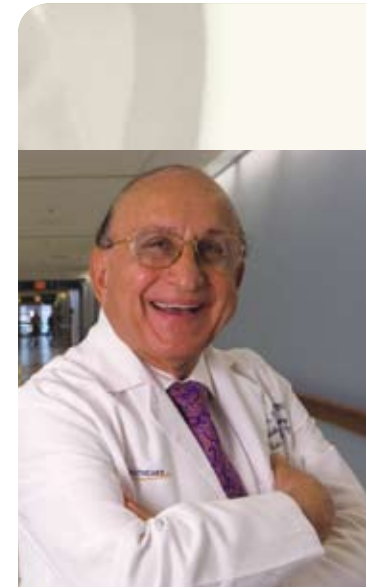
1990s

David Everman 93M is a clinical geneticist with the National Human Genome Research Institute.

Josh King 96M is chief of medicine at Newton Medical Center in Covington, Ga. He joined the center in 2003 as the first hospitalist sponsored by Newton Medical Associates.

2000s

Shealynn Harris 00M received the 2008 Distinguished Alumni Award



Mansour receives Emory's top alumni honor

Kamal Mansour was in Egypt last year when a medical student at Cairo University went into cardiac arrest while sitting for his exams. The patient required an operation that no one in the country could do. Mansour performed the surgery and later celebrated by eating cake on the recovering patient's birthday. "I never have a set time to work," Mansour once said. "Whenever somebody needs me, I go."

In addition to lending a hand internationally, Mansour taught and practiced cardiothoracic surgery at Emory for 36 years. For his devotion to teaching and medicine, the university awarded him its highest alumni honor, the Emory Medal, in 2008.

Mansour's relationship with Emory began in 1966 when he was named chief resident in cardiothoracic surgery at Emory University Hospital. He is an expert in tracheal resection and reconstruction, major chest wall resections, correction of chest wall deformities, and esophageal replacement, which involves replacing the esophagus or a portion of it with a section of the bowel and for which Emory is known internationally.

Since earning his medical degree in Egypt in 1954, Mansour has returned countless times to the Middle East to lecture, teach, and operate. Among the honors he holds is the Shield of Medicine as one of the top 10 Egyptian doctors in the world. "The Professor," a name given to Mansour by Emory residents for his dedication to both students and patients, retired in 2004. That same year, he and his wife Cleo provided a gift to establish the Kamal A. Mansour Professorship of Thoracic Surgery. It's his way of honoring Emory and encouraging young surgeons in the field.

The Emory Medal Initiated in 1946, the medal honors alumni for distinguished service to Emory, career achievement, and community or public service.

from Kennesaw State University. As medical laboratory director of North America for Quintiles Global Central Laboratories, Harris led a major expansion for testing global clinical trial samples at the company's facility in Marietta, Ga. She currently leads a project to enhance laboratory services for global oncology clinical trials in the United States, Europe, and China.

BORN: Edward Benicio (Beni) to **Alison Sisitsky Curcio 01M** and her husband, Edward Curcio, on Feb. 29, 2008. She is an emergency medicine physician in Massachusetts.

MARRIED: **Sujoy Gulati 04M** and Lindsay Goebel on Sept. 3, 2008, in Antigua. Gulati practices emergency medicine in Indianapolis.

Marcus Lehman 07M has survived "Survivor." He was ousted last fall during the 17th TV episode in Gabon. "It was a great time to step back and look at the various options I'd like to pursue," he says. "I'm interested in preventive medicine and how the media can be used as a vehicle for accomplishing that." He will return to Emory in July to continue his residency in anesthesiology. He completed



Alison Curcio 01M and son

Class Notes

alumni news

his first year at the Mayo Clinic in Jacksonville, Fla.

Residency Notes

J. Max Austin (gyn/ob) holds the Margaret Cameron Spain Endowed Chair at the University of Alabama at Birmingham. He also received the R. Carl Chandler Award from the Oxford College Board of Counselors.

MARRIED: **Shaun Brownlee** (pediatrics) and Dana Pigford on Nov. 17, 2007, in Atlanta.

Naga Chalasani (gastroenterology) directs the gastroenterology and hematology division at the Indiana University School of Medicine and is a member of the American Society of Clinical Investigation.

Talmadge King Jr. (internal medicine) holds the Julius R. Krevans Distinguished Professorship in Internal Medicine and is chair of medicine at the University of California, San Francisco. An expert in pulmonary disorders, King is a member of the Institute of Medicine, among other honors. In 2007, he received the Trudeau Medal, the highest honor given by the American Lung Association and the American Thoracic Society.

Daniel Russo (plastic surgery) is president of the American Academy of Facial Plastic and Reconstructive Surgery. He practices in Birmingham, Ala.

Ralph Wesley (ophthalmology) received the Orkan Stasior Leadership Award from the American Society of Ophthalmic Plastic and Reconstructive Surgery. He is a clinical professor at Vanderbilt University Medical Center.

Deaths

1930s

Jack Bleich 31M of Atlanta on Nov. 9, 2008. He was 101. Motivated by the deaths of three sisters from childhood illnesses and his mother at a young age from rheumatic heart disease, Bleich entered medical school at Emory. He graduated with honors and went on to serve as a command surgeon in WWII. He retired from the military with 20 years of service. He retired from medical practice at age 80.

Rufus Pearson Jr. 38M of Southern Pines, N.C., on May 11, 2008, in Florida. A veteran of WWII and the Korean War, he rose to prominence in the Medical Corps, serving as chief of cardiology and later, medicine, at the National Naval Medical Center in



J. Max Austin

Bethesda, Md. In 1966, he was appointed the attending physician to Congress. Only the second physician to hold this post, Pearson endeared himself to members of Congress and thus earned their praise in the *Congressional Record* on several occasions. He was chosen to accompany the Senate majority and minority leaders on their historic trip to China in 1972.

1940s

Charles Hooper Sr. 41M of Chattanooga, Tenn., on June 12, 2008, at age 94.

Myron McEachern 41M of Tampa, Fla., on Oct. 17, 2008. An old-fashioned general practitioner, McEachern made house calls up until his 80s.

Pierce Allgood 43M of Atlanta on July 24, 2008, from Alzheimer's. A U.S. Army doctor during the Korean War, Allgood practiced orthopaedics



Talmadge King Jr.

at Piedmont and Kennestone hospitals.

Richard Felder 44M of Gainesville, Ga., on May 2, 2008, from lung cancer. He was 89. Felder practiced internal medicine in LaGrange, Ga., and Atlanta but returned to Emory in 1950 to train in psychotherapy. He spent much of his second career at the Atlanta Psychiatric Clinic, and in 1993, he joined the Link Counseling Center. He was a true Renaissance man with a passion for nurturing his own physical and mental health and that of others.

Thomas Reeve Jr. 44M of Carrollton, Ga., on June 12, 2008, at age 88. Until age 9, he lived in the Belgian Congo with his missionary parents. After completing his residency, he joined Tanner Medical Center in Carrollton, Ga., as its first general surgeon and went on to serve as chief of staff. Reeve also was the go-to person for carving an apple, naming the constellations,



Ralph Wesley

and identifying leaves on trees in Carrollton.

Joseph Jacob 45M of Chelsea, Mich., on Feb. 15, 2008. An Army veteran of WWII, he practiced psychiatry in Ann Arbor for more than 40 years.

Clifford Walton Jr. 45M of Knoxville, Tenn., on March 18, 2008, at age 86. He served as chief of radiology at East Tennessee Children's Hospital and founded the Knoxville Radiological Group.

Carl Arnold 46M of Cocoa, Fla., on June 15, 2008, at age 85. He served as a captain in the U.S. Medical Corps in Germany prior to starting his ob/gyn practice in 1955. He was president of the Wuesthoff Hospital medical staff and a member of its board of trustees. He taught Sunday school in Cocoa for 52 years.

Jerome Block 46M of Miami Beach, Fla., on Dec. 20, 2007.



Carl Arnold 46M

John Hayes 46M of Kerrville, Texas, on Jan. 6, 2008, at age 85. He was preceded in death by his wife, Exa Parrish Hayes 45N. They were married the day after he graduated from medical school.

Bryon Harper 46M of Fayetteville, Ga., on April 12, 2008. He served Atlanta's West End and East Point communities and helped found South Fulton Hospital. He co-founded Christian City in Union City, Ga., providing the community with a children's home, retirement village, and assisted living and Alzheimer's facilities. Harper also founded a hospice where he volunteered as its medical director for 20 years. Christian City and the hospice are on land donated by the Harper family.

Harvey Howell 47M of Cartersville, Ga., on May 5, 2008, at age 82. The Korean War veteran practiced general surgery in Cartersville for 53 years and served as



Harvey Howell 47M

the Bartow County medical examiner for 44 years.

Julian Suhrer 47M of Jacksonville, Fla., on June 21, 2008, at age 84. During the Korean War, he and his surgical team were flown into MASH units in the war zone. He returned to Jacksonville in 1956 to open a general surgery practice. Suhrer helped introduce the artificial kidney machine to the area. He later became one of the first surgeons on staff at Memorial Medical Center and served as chief of colon and rectal surgery until he retired in 1990.

1950s

George Mayfield 50M of Augusta, Ga., on April 24, 2008. He worked at the VA hospitals in Nashville, Tenn., and Augusta before entering private practice.

Charles Burke 52M of Jacksonville, Fla., on March 24, 2008, from Alzheimer's at age 86. Burke



Charles Burke 52M

studied medicine after serving with the medical corps during WWII. He established his surgical practice in Jacksonville and became chief of the medical and dental staff at St. Vincent's Medical Center and helped establish the family residency program. He worked with the city and the Duval County Medical Society to establish a disaster program and served as disaster medical director of the local American Red Cross. He retired in 1989.

William Eubanks 52M of Atlanta on Sept. 14, 2008. He practiced ophthalmology in Atlanta for 34 years.

Daniel Plunkett 52M of Tulsa, Okla., on Feb. 24, 2008. For 20 years, he was a U.S. Army physician specializing in pediatric hematology and oncology. He became Tulsa's first pediatric oncologist and founding chair of pediatrics at the University of Oklahoma College of Medicine. He retired in 2000 after leading the department for 21 years.

Deaths | alumni news

Richard Margeson 53M of Atlanta on Sept. 2, 2008, of cancer. He practiced surgery in Atlanta throughout his career. Among his accomplishments, he served as the company doctor for the Ford auto plant in Hapeville, Ga., and on the clinical faculty at Emory.



Richard Margeson 53M

Fanning Miles 53M of The Village, Okla., on July 10, 2008, at age 81. He practiced family medicine in Oklahoma City for 37 years and retired in 1992. He also served as a medical missionary in Romania, El Salvador, Honduras, Guatemala, and Kenya.



Fanning Miles 53M

Edwin McDowell 54M of Merritt Island, Fla., on Sept. 19, 2008. He was chief of urology services at DeKalb General Hospital for 18 years before returning to his native Florida in 1970. He served there as chief of urology at Orlando Regional Medical Center and retired in 1993.

refusing to transfer a gunshot victim he had operated on at the white hospital where he practiced to a black hospital—a stance that saved the patient's life. He also brought the first trauma surgeons to the Fort Myers area and performed the first craniotomy and carotid artery surgery.

Robert Franklin Taylor 56M of Lakeland, Fla., on Sept. 10, 2008, at age 75. He was an anesthesiologist in Lakeland for 38 years and cheered the Florida Gators for more than 40 years.

Medical College of Georgia's prison health division.

1960s

John Austin 66M of Benton, La., on April 2, 2008, following a long illness. He first practiced surgery at Bossier General Hospital, where he eventually served as president of the medical staff. Austin moved his practice to W.K. Bossier Health Center when it opened in 1996 and served there as the first chief of surgery. Austin retired in 2001.

Robert Davis 58M of St. Simons Island, Ga., on March 10, 2008.

Clarence Wilcox Jr. 58M of Rome, Ga., on Aug. 16, 2008.

Terrell B. Tanner 59M of Ellijay, Ga., on March 3, 2008, following a heart attack. He practiced family medicine in Oxford, Ga., for two decades. After retiring, he worked for the

Frank Houser Jr. 66M of Atlanta on July 28, 2008, following a long illness. He was 67. Houser was a nationally recognized expert on measuring quality of care in hospitals and health care systems. Until he retired in 2006, he served as medical director and senior vice president of quality for Hospital Corporation of America (HCA) and created the patient safety framework now in place at



John Leonardy 55M and his wife, Jean

HCA hospitals across the country.

He began his career at a pediatric clinic in Dalton, Ga., in 1971. Then Governor George Busby appointed him to the Georgia Council on Maternal and Infant Health, where he helped develop minimum standards of care. In 1979, Houser helped establish Mercer Medical School and later led Emory Clinic's external operations. In 1991, Governor Zell Miller appointed him as Georgia's director of public health.

For more than 20 years, Houser worked with Curamericas Global. The nonprofit provides primary health care in Bolivia, Haiti, and Guatemala.

Daniel Strickland 68M of Sarasota, Fla., on May 20, 2007.

1970s

Christian Ramsey Jr. 70M of Lexington, Ky., on June 21, 2008, from complica-

tions of Parkinson's. He was 67. In 1982, he was named chair of family medicine at the University of Oklahoma School of Medicine. He held that post until 1994, when he was named associate dean for clinical affairs at the University of Kentucky School of Medicine. He retired from UK in 2000. An endowed chair in family medicine was named in his honor at Oklahoma.

1980s

Karl Sanders 83M of St. Simons Island, Ga., on Aug. 29, 2007.

Residency Deaths

Hewlett Aderholt (anesthesiology) of Monroe, Ga., on March 22, 2008, from rheumatoid arthritis, at age 80. Aderholt practiced medicine for 15 years in Tifton, Ga., where he also served as the physician for Abraham Baldwin Agricultural College. He then

completed his anesthesiology residency at Emory. He practiced at Doctor's Memorial and Piedmont hospitals, retiring in 1992.

Elizabeth Caldwell (internal medicine) of Marietta, Ga., on May 8, 2008, at age 54.

Paul Cooper (pediatrics and radiology) of Canton, Conn., on June 15, 2008.

Charles Cowan (cardiology) of Laguna Beach, Calif., on Oct. 20, 2008, at age 74. Cowan, his wife, Jeanien, and a friend died when their plane crashed off the runway on Catalina Island.

Burford Culpepper (internal medicine) of Dallas, Texas, on Dec. 6, 2007.

Joseph Duke (internal medicine) of Parrish, Fla., on June 19, 2007.

Forrest Garretson Jr. (hematology) of Lakeway, Texas, on Feb. 16, 2008, at age 77. He was an

oncologist at the Springer Clinic in Tulsa, Okla., for 20 years after serving as a U.S. Army physician for 15 years. As a National Guardsman, he commanded a medical unit in Saudi Arabia during the Gulf War. After the war, he reenlisted and was assigned to Fort Bragg, N.C., for five years. He retired as a full colonel with 20 years of service and numerous commendations.

Richard Johnson (medicine) of Scottsdale, Ariz., on Jan. 17, 2008.

Roderick McCrory (radiology) of Lilburn, Ga., on March 18, 2008, at age 66. He practiced at Crisp County Hospital in Cordele, Ga.

Fenwick Nichols (internal medicine) of Savannah, Ga., on Jan. 4, 2008, at age 88. During his 50-plus years in medicine, he served as chief of staff at Memorial University Medical Center in Savannah. He received

the Georgia Medical Society's life achievement award in 2005.

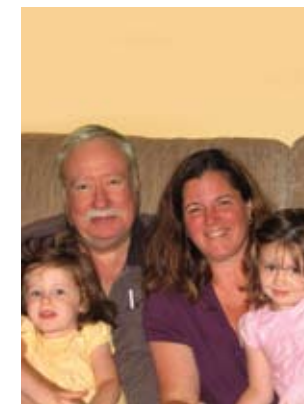
Samuel Schatten (rheumatology) of Atlanta on Sept. 27, 2008, of heart failure resulting from pulmonary artery sarcoma. A longtime leader in the Jewish community, Schatten also loved to dance. In 2005, he collapsed while dancing at a bar mitzvah, which ultimately led to his cancer diagnosis. The crisis led him to found the CLEAR (cardiac life extension and rescue) Coalition to educate people about CPR and placing portable defibrillators in schools, businesses, and public places.

Francis Shaw (medicine) of Camden, S.C., on June 26, 2008, at age 94. He practiced medicine at Kershaw County Memorial Hospital in Camden.

Reginald Stambaugh (internal medicine/ophthalmology) of Palm Beach, Fla.,



Frank Houser Jr. 66M



Karl Sanders 83M and family



Joseph Duke



Forrest Garretson Jr.

Deaths

alumni news

on Dec. 15, 2007, at age 77. Among other accomplishments, Stambaugh invented the triple needle for surgery. He served as the first president and board chairman for the Ophthalmic Mutual Insurance Company. He was past president of the Palm Beach Medical Society and founding chairman of Eye and Ear Alert.

Henry Thomas (family medicine) of Starkville, Miss., on April 2, 2008.

Jerald Turner (ophthalmology) of Clearwater, Fla., on March 15, 2008, of colon cancer. He was 90.

Avram Zackai (internal medicine) of Bala Cynwyd, Penn., on April 8, 2008.

Faculty Deaths

John Mills III (biochemistry) of Atlanta on July 12, 2008, at age 69. For 30 years, he taught at Emory and focused his research on human growth hormone.



Richard Johnson

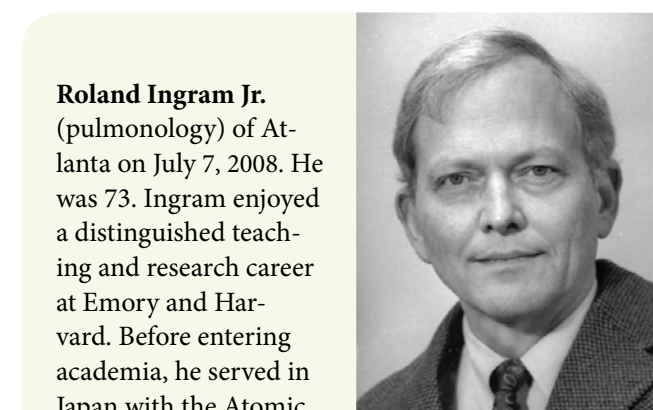
A consummate Southern gentleman, Mills loved to tell stories laced with humor.

Mark Silverman (cardiology) of Atlanta on Nov. 12, 2008, following a heart attack. Silverman was the founding cardiologist of the Fuqua Heart Center at Piedmont Hospital and put forward the idea that certain heart conditions manifested in abnormalities of the hand. In addition to his practice, he wrote numerous articles on medical history. After writing the book, *British Cardiology in the Twentieth Century*, Silverman was named a fellow in the Royal College of Physicians in London in 2001. He was well known for donning 17th-century dress to lecture on blood circulation in the persona of British physician William Harvey. In all, he spent 38 years at Emory, where he mentored numerous cardiology fellows and residents.

William Whitaker 43M of Atlanta on April 6, 2008. In 1949, he began his general



Jerald Turner



Roland Ingram Jr.

Roland Ingram Jr. (pulmonology) of Atlanta on July 7, 2008. He was 73. Ingram enjoyed a distinguished teaching and research career at Emory and Harvard. Before entering academia, he served in Japan with the Atomic Bomb Casualty Commission in Hiroshima and Nagasaki. He first joined the Emory faculty in 1969 and went on to direct the pulmonary division. He left Emory to direct pulmonary critical care at Harvard, where he served as the Parker B. Francis Professor of Medicine and professor of physiology in public health.

Ingram returned to Emory in 1992 to serve as chief of internal medicine and the Martha West Looney Professor at Emory Crawford Long Hospital. He also directed the pulmonary division for Emory's hospitals. Ingram received two Golden Apple Awards for teaching excellence, along with a host of other honors. After retiring, he continued teaching medical students and residents, including those at Grady, as a volunteer.

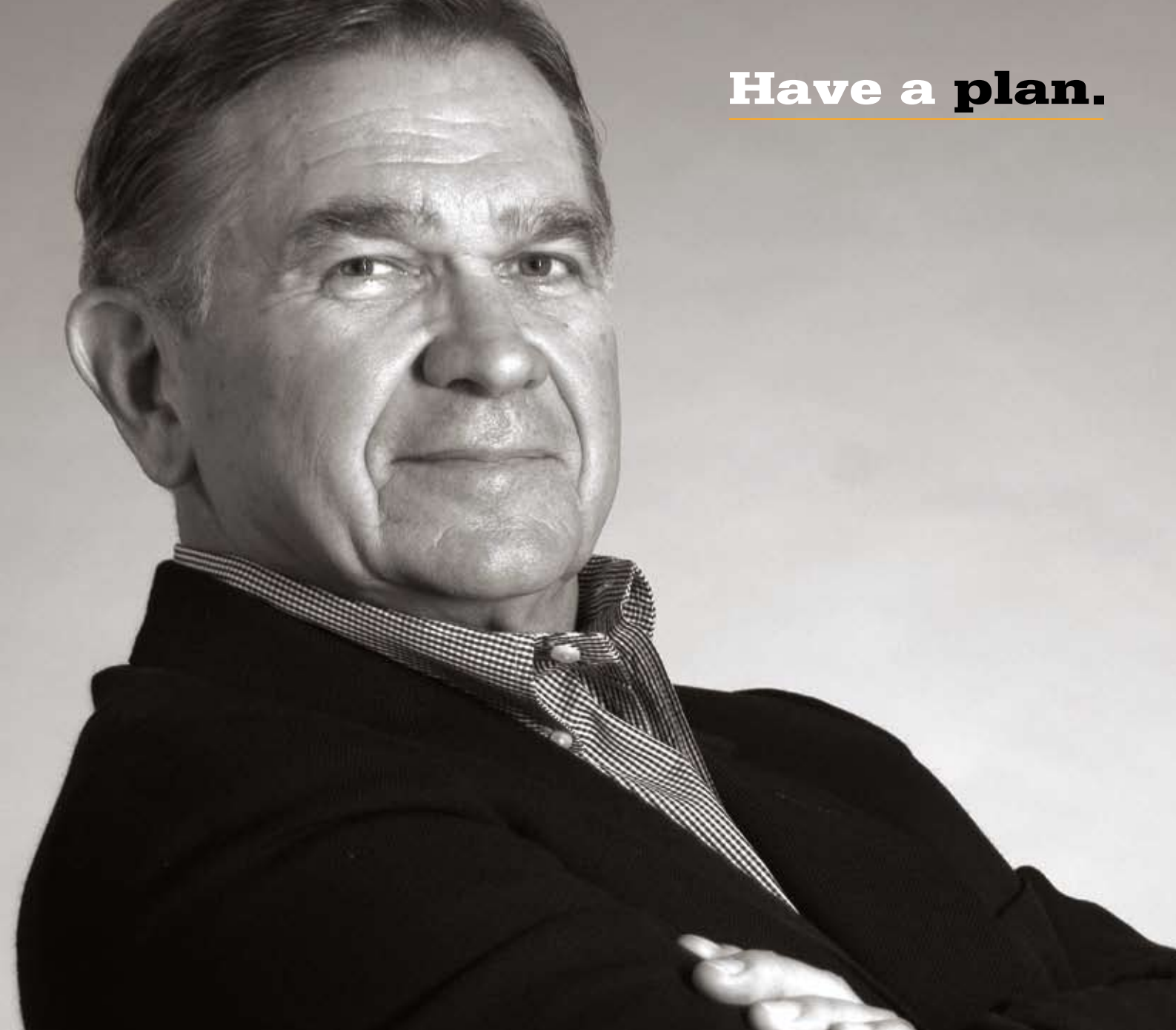
surgery practice at Crawford Long Hospital. The



Mark Silverman

last 23 years of his practice were at Piedmont Hospital, where he began a surgical residency program in conjunction with Emory. The William Whitaker Surgical Chair was established there in his honor. He also was chief of inpatient surgery, chair of the surgery department, and a board member with the hospital and Piedmont Medical Center. He retired in 1996 at age 78.

Have a plan.



THE SON OF TEACHERS in Shelby, North Carolina, Joe Craver collected perfect grades like baseball cards. As a young physician in training, he embraced the objectivity and superior results of heart surgery. In mentoring younger surgeons, he came to realize his own talent as a teacher, and education became his great passion.

Now retired after three decades as an Emory professor and cardiac surgeon, Craver is perpetuating his contributions to surgical education at Emory School of Medicine. Through a charitable trust, he is funding a visiting lectureship, a teaching award, and an endowed chair.

A tax-wise strategy, the trust provides him with income for life and creates a generous remainder gift to Emory. Sharing knowledge with other physicians creates a lasting professional legacy, Craver says. "Teaching is a great calling and should be rewarded. It's a major part of what Emory is."

Learn more about charitable remainder trusts. Visit www.emory.edu/giftplanning or call 404.727.8875.

Plan to share your legacy.





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BILLY HOWARD

A beautiful life

The writing bug first bit Emory cardiologist John Stone in the 8th grade. It definitely took, as Stone went on to produce a textbook on emergency medicine, a book of essays, and five books of poetry. Stone's voice was silenced when he passed away in November at age 72 (see page 22).