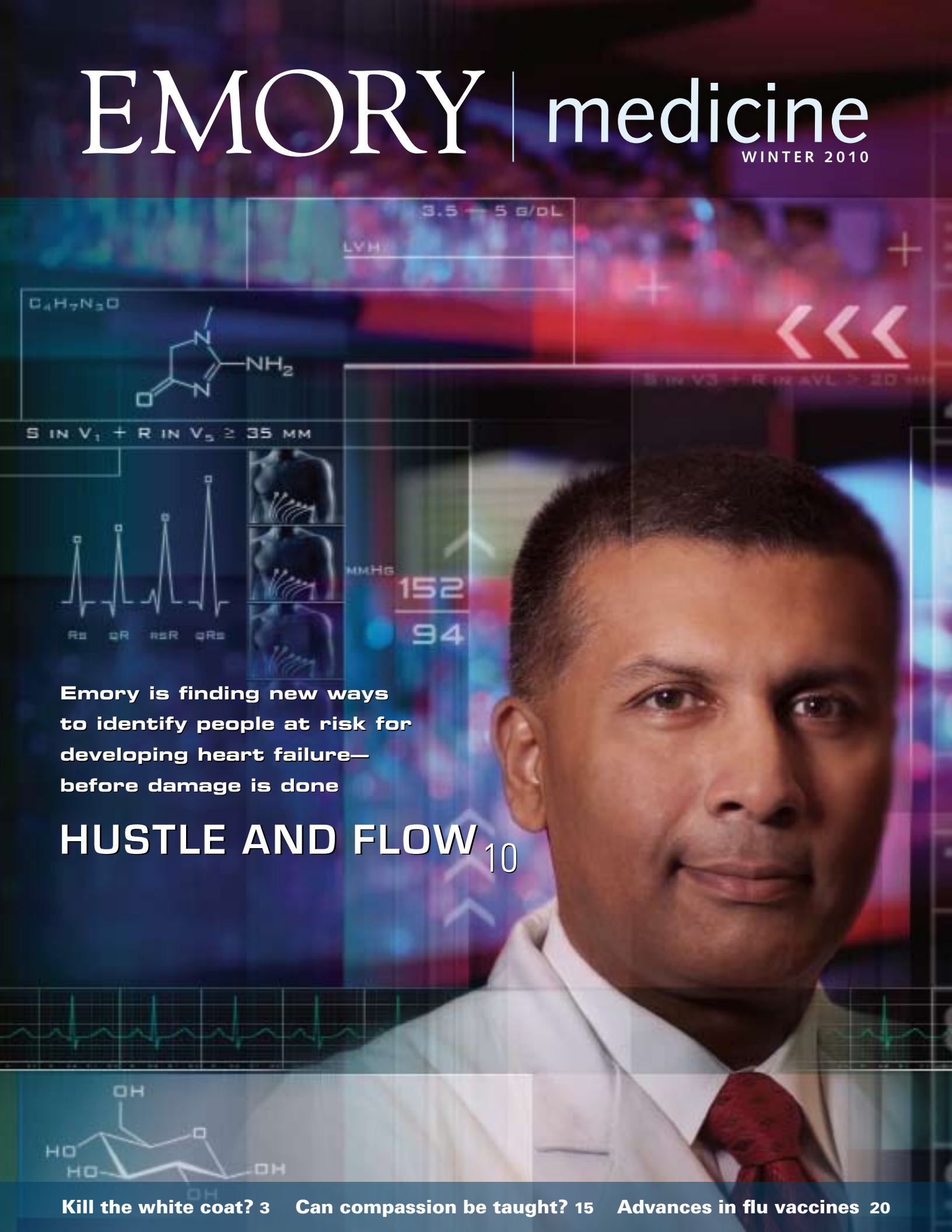
# EMORY | medicine

WINTER 2010



Emory is finding new ways to identify people at risk for developing heart failure—before damage is done

## HUSTLE AND FLOW 10

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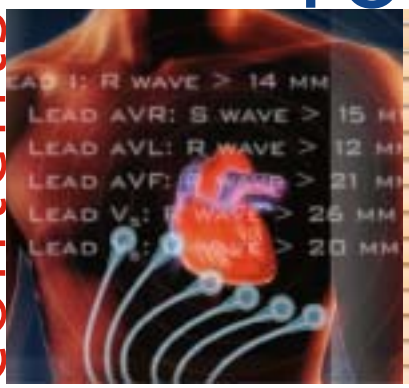


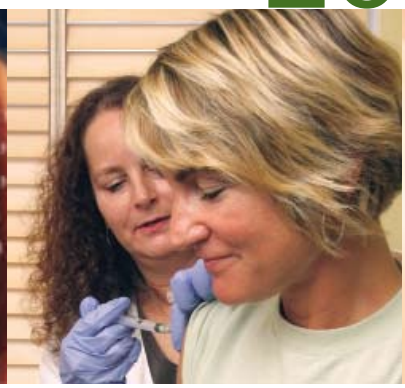

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**Please send address changes and letters to the editor to:**
Editor, *Emory Medicine*
Emory University
School of Medicine
1440 Clifton Road, NE, Suite 150
Atlanta, GA 30322

Phone: 404-727-6799
E-mail: kay.torrance@emory.edu
E-mail for class notes:
eurec@emory.edu

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# Dean's Message

## The making of a doctor

*Editor's Note:* Dean Lawley was named chair-elect of the Association of American Medical Colleges in November. Since becoming dean in 1996, Lawley has increased school NIH-sponsored research funding nearly five-fold to more than $265 million per year. This past year the school moved up in the NIH rankings to 15 from 18.

OUR M3 CLASS IS A FIRST, OF SORTS. Two years ago, they entered the School of Medicine as the first class under our new curriculum. We had worked for several years on the new curriculum, and when they arrived, we were excited to get started and to see how they responded.

This fall, our M3s marked the halfway point through the curriculum. They have taken their time to give us valuable feedback on what and how they were learning—what they liked about the new curriculum and what needed tweaking. Overall, they gave the curriculum rave reviews, and they are thriving as doctors-in-training. Faculty report that their classes are fuller. Our applicant yield has gone up in the past two years, and MCAT scores have increased to 34, one point above our previous average. And our colleagues across the country at other medical schools have taken notice of what we've done here.

When I first looked at the new curriculum on paper, my first thought was how immensely different it is from the way I learned medicine many years ago. Certainly, medicine changes every year as new knowledge and technology are incorporated, but what strikes me about the curriculum is the *way* students learn. It's more hands-on, integrated, and patient-centered.

The first two years are integrated basic and clinical sciences. Classes are no longer department-based, lecture-intensive classes. Group learning is emphasized, and patient contact begins in the second week. The focus is on patients—not diseases—and outpatient experience has been increased.

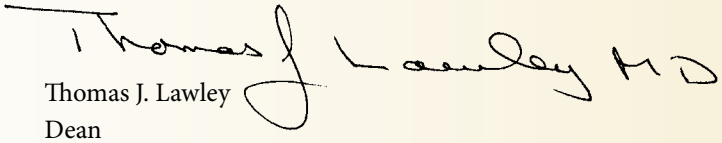
But what I am most proud of is the society system we now have.

Each society has eight or nine students and a faculty member who leads the group for all four years. The system gives students steady and intentional access to faculty, who supervise and mentor them. Keeping the same adviser allows both student and teacher to develop a personal connection. The School of Medicine pays salary for the society leaders. Each adviser gives up the equivalent of a day and a half each week from clinical and research responsibilities to spend with their students.

It's a big responsibility to groom the next generation of doctors. Longtime faculty member Linton Hopkins is a society adviser. He and other society leaders teach everything from how to take a patient's medical history to how to break bad news to patients in a humane and thoughtful way. Hopkins gave up his neurology clerkship that had led for 15 years to serve as an adviser. He didn't blink an eye: "Now I have nine new colleagues I am ushering into their careers," he said.

The society leaders, like Hopkins, are modeling behavior that we want students to emulate, because beyond graduating promising doctors, we want to graduate promising leaders.

Sincerely,



Thomas J. Lawley
Dean

# In Brief

## Managing conflict of interest better

**The School of Medicine rolled out updated policies on industry relationships with faculty, staff, students, and trainees in early June.** Some highlights include the following:

- Faculty, staff, students, and trainees are prohibited from accepting gifts, regardless of value or nature, from industry.
- No pharmaceutical samples can be accepted.
- No compensation or travel expenses from industry for speaking at promotional industry events are allowed.
- Faculty must disclose financial relationships in all formal lectures to medical students and trainees.

The policies follow more than two years of research by a medical school's task force commissioned by Dean Thomas Lawley and months of review by the school's council of chairs. "Our new policies may not always prevent the accidents of human nature, but they may help us avoid the six-car pile-up that such issues can cause," says Lawley.

At a town hall meeting to introduce the policy, Tristram Parslow, who served as the task force co-chair, said, "We never see our own conflicts of interest the way others see them. I always ask two questions, 'How would this look in the newspaper, and why does this company love me?' The processes are not perfect, but the stakes are very high."

Claudia Adkison, executive associate dean for administration and faculty affairs, helped guide the task force's work and gave presentations on the policies to all the school's departments and divisions. Adkison was chair and a founding member of FOCI Academe, the Association of American Medical Colleges' (AAMC) forum on conflict of interest. She also served on the AAMC committee that in February 2008 called on all medical schools to update their conflict of interest policies.

**ONLINE:** The medical school's policies can be accessed at **med.emory.edu/dean/conflictofinterest.cfm**.

## Talk to us

The long-sleeve, knee-length white coat has long symbolized professionalism and expertise, but should it become **a thing of the past?**

For now, the American Medical Association has shelved a proposal that doctors should get rid of their white coats. The measure would urge hospitals to adopt dress codes of "bare below the elbows," to avoid transmission of bacteria to patients via coat sleeves. While studies have shown that bacteria like methicillin-resistant *Staphylococcus aureus* (MRSA) and Clostridium difficile can exist on sleeves, there is no proof that bacteria pass from doctors' sleeves to patients. But backers of the proposal argue that as long as there's the slightest chance of transmission, everything possible should be done to avoid it.

Other health systems already are on board. The British National Health System has banned ties, long sleeves, jewelry, and white coats. The National Health Service for Scotland has said that short sleeves and empty breast pockets are in and that white coats or scrubs outside of the medical environment are out.

What do you think about the proposal? Are there other factors or reasons to consider in keeping or getting rid of the white coat? **Email your thoughts to medicine-magazine@emory.edu. We'll share your responses in the next issue of *Emory Medicine*.**

# In Brief

## Giving transplant patients an easier recovery

**For transplant patients, taking toxic immunosuppressant drugs to prevent graft rejection often feels like the lesser of two evils because of the drugs' severe side effects.** Patients must take the drugs, but they also suffer serious side effects. Now a new combination of drugs could open the door to treatments that are less toxic.

A popular class of immunosuppressive drugs known as calcineurin inhibitors (examples are cyclosporine and tacrolimus) can damage patients' kidneys and lead to high blood pressure, among other problems. A combination of treatments can effectively replace calcineurin inhibitors in preventing graft rejection when kidney transplants are performed on monkeys, scientists at the Emory Transplant Center have shown.

The finding opens the door to a less-toxic post-transplant treatment that could be administered once a week rather than the current dizzying mound of pills that must be taken every day, says Allan Kirk (surgery), a Georgia Research Alliance Eminent Scholar.

One key ingredient in the combination is an experimental therapy called a costimulation blocker, designed to interfere with the T cells that cause graft rejection without affecting other organs. Costimulation refers to one of two signals T cells need from other cells to become fully activated.

The other key ingredient, a protein called alefacept, subdues memory T cells, which allow the immune system to respond faster and stronger to an infectious agent or vaccine upon second exposure.

Costimulation blockers are sufficient for allowing mice to tolerate a transplanted kidney, but not monkeys or people, Kirk says. Memory cells appear to prevent costimulation blockers from working as well in monkeys as they do in mice.

"One of the big differences we've found between mice and both monkeys and people is that we primates have more exposure to infections that require us to develop immunologic memory," he says. "Memory cells are quicker to become activated and don't need costimulation as much, so blocking costimulation doesn't slow them down."

By themselves, neither costimulation blockers (in this case, a molecule called CTLA4-Ig) nor alefacept could prevent rejection in monkeys after the eight-week treatment period, Kirk and his colleagues found. They had more success by combining costimulation blockers, alefacept, and the transplant drug sirolimus. Under this regimen, monkeys could last for months after treatment ended without developing rejection or self-reactive antibodies.

Both CTLA4-Ig and alefacept are proteins and must be administered intravenously or possibly subcutaneously. However, their stability means they don't need to be taken every day—once a week is enough, Kirk says.

# The healing power of progesterone

More than 25 years ago, scientist Donald Stein (emergency medicine) noticed that female rats recovered better than male rats from brain injury. The brain researcher thought the difference for females was the effect of progesterone, but he found little interest in this theory among his colleagues, who told him not to waste his time.

Still, he believed he was on to something, and he persisted. He spent decades doing his research in his spare time and with piecemeal funding. This past summer, he saw the fruits of his hard work when the medical school received $14.5 million in NIH funding to lead a phase III study in 15 states to evaluate the effectiveness of progesterone on patients with acute traumatic brain injury. Grady Hospital will serve as the lead center when the trial begins early this year.

Donald Stein's research, which began more than 25 years ago, is headed into a phase III study on the effectiveness of progesterone for traumatic brain injury.

An earlier study, called ProTECT (progesterone for traumatic brain injury—experimental clinical treatment) yielded positive results. "We found a 50% reduction in mortality in those patients treated with progesterone," says David Wright (emergency medicine), who also will lead the new study. "We also found signs that progesterone improved functional outcomes and reduced disability in patients with moderate brain injury."

Progesterone is naturally present in small but measurable amounts in human brains, and brain tissue is loaded with progesterone receptors. Laboratory studies suggest that progesterone is critical for normal development of neurons in the brain and exerts protective effects on damaged brain tissue. Approximately 1.5 to 2 million Americans suffer a traumatic brain injury each year, leading to 50,000 deaths and 80,000 new cases of long-term disability.

"Many people do not realize that it's not just a female hormone; both men and women produce progesterone directly in the brain as well as in other tissue," says Stein, who directs the brain research lab in emergency medicine. "Ultimately, we learned that progesterone basically does in brain injuries what it also does during fetal development—protect cells and tissue. To now witness the translation of this laboratory research into a treatment that may have live-saving benefits is breathtaking."

**Stein is continuing to research progesterone. In collaboration with Dennis Liotta, Emory professor of chemistry and a codiscoverer of Emtriva for HIV, Stein has found some progesterone analogues that are water-soluble.**

**Currently, lack of water solubility limits delivery of progesterone. The hormone must be prepared hours ahead and cannot be kept at room temperature. Small chemical modifications may allow similar compounds with the same effects as progesterone to be given to patients closer to the time of injury.**

**According to his research, two compounds similar to progesterone reduced brain swelling just as well as progesterone did in an animal model of traumatic brain injury.**

**Stein also has found that adding vitamin D to progesterone enhances the hormone's effectiveness. Like progesterone, vitamin D is a steroid hormone that is inexpensive and safe and acts on many different biochemical pathways. A small amount of vitamin D boosted progesterone's ability to protect neurons from excito-toxicity, a principal cause of brain injury and cell death.**

# In Brief

## Capitol rotation

Jackie Green 09M requested what some might think of as an unusual site to complete a rotation—the Georgia state Capitol—something no Emory medical student had done before.

"It was great for me because I was invested in the policy decisions," says Green, who is now an internal medicine resident at Emory.

Green served her rotation under Rep. Sharon Cooper (R-Marietta), who chairs the Georgia House Health and Human Services Committee. A former psychiatric nurse and college professor, Cooper wanted Green to become immersed in the political process at the General Assembly.

"Jackie was the first person with the insight to ask for a rotation at the Capitol," Cooper says. "I tried to make sure Jackie went with me, from meeting with the governor's lawyer to one-on-one negotiations with others." The hands-on guidance gave Green a chance to work on several health policy bills and helped with the successful passage of the Medical Practice Act, which clarifies the roles and responsibilities of medical professionals.

While in medical school at Emory, Jackie Green (left) worked as a health policy intern at the Capitol, guided by Representative Sharon Cooper, who herself holds a master's in nursing.

While working with legislators on health policy was new to Green, working to influence policy was not. She previously served as an officer in Health Students Taking Action Together (HealthSTAT), a student-run, not-for-profit dedicated to influencing health legislation. When HealthSTAT took an active role in an effort to keep Grady Hospital open, Green helped organize students for a campaign that drew attention to the hospital's plight.

Green's precedent has paved the way for other Emory medical students to complete a health policy rotation with the legislature, underscored by a request from Rep. Cooper to work with additional Emory students.

Arthur Kellermann, the medical school's associate dean for health policy, considers these opportunities crucial to medical professionals seeking a greater understanding of how politics and medicine interact. He worked with the U.S. House Committee on Oversight and Government Reform, as part of a health policy fellowship offered by the Robert Wood Johnson Foundation. "It's the difference between watching a play and participating in the play as both a stage hand and member of the cast."

## Bottlenecking HIV

**One of the greatest challenges in fighting HIV is how fast it mutates. One who is infected with HIV usually has a vast library of different viruses that could vary in their sensitivity to drugs or vaccines.**

**HIV faces a genetic "bottleneck" when the virus is transmitted from one person to another. Because of the bottleneck, most of the time during heterosexual transmission, only one virus or virus-infected cell makes it through to establish the new infection.**

**Emory researchers have found that the bottleneck is disrupted when the at-risk partner has an inflammatory genital infection. The infection compromises normally protective mucosal barriers, allowing multiple viral varieties through the bottleneck.**

**The results, published in the January 2009 issue of the journal *Public Library of Science Pathogens*, explain why other sexually transmitted diseases make people more susceptible to HIV infection. They also identify a window of time when a still-elusive HIV vaccine could control the virus, says team leader Eric Hunter (pathology).**

**"Very early on after initial infection, the virus is almost homogenous," Hunter says. "If the immune system could contain the virus at that point, there might be a better chance to eliminate it.**

**The more we know about the early stages of infection, the more likely it is we could identify ways to intervene at that critical time."**

## Improving chemotherapy for lung cancer patients

**Advanced non-small cell lung cancer is very challenging to treat,** so recent study results on vorinostat hold great promise for patients, says Suresh Ramalingam (hematology/oncology).

Ramalingam and his team added vorinostat to a standard chemotherapy regimen of carboplatin and paclitaxel in patients with advanced non-small cell lung cancer and found that the addition of the anti-tumor agent increased effectiveness of the treatment. The combination increased response rates from 12.5% to 34% and demonstrated favorable trends for progression-free survival and overall survival.

"These results also open the door to evaluate other drugs that belong to this class of compounds for treatment of non-small cell lung cancer," says Ramalingam.

Vorinostat is part of an emerging class of anti-tumor agents that interfere with enzymes known as histone deacetylases. Inhibiting these enzymes increases the level of acetylation, a reversible chemical modification, on proteins in the cell. Vorinostat may be affecting histones, abundant spool-like proteins around which the cell's DNA is wound, and other proteins important for cell division such as tubulin. Scientists believe these effects could enhance the DNA-damaging and cell division-inhibiting effects of carboplatin and paclitaxel, respectively.

Suresh Ramalingam is studying how advanced non-small cell lung cancer reacts to chemotherapy with the addition of the drug vorinostat.

## When our ears shut down

**THERE MAY BE A biological reason for blindly following expert advice, according to Gregory Berns (neuroeconomics and psychiatry).** Berns used functional magnetic resonance imaging (fMRI) to show that expert advice may shut down areas of the brain responsible for decision-making, particularly when people are trying to evaluate a decision involving risk.

Study participants were asked to make financial choices between a guaranteed payment and a lottery while undergoing fMRI scanning. During a portion of the test, they were asked to make decisions on their own. During another portion, they received advice from a financial expert on which choice to make.

"Results showed that brain regions consistent with decision-making were active in participants when making choices on their own; however there was an off-loading of decision-making in the presence of expert advice," says Jan Engelmann, a psychiatry research fellow and first author of the study.

The study was published in the March 2009 issue of *Public Library of Science*.

"This study indicated that the brain relinquishes responsibility when a trusted authority provides expertise," says Berns. "The problem with this tendency is that it can work to a person's detriment if the trusted source turns out to be incompetent or corrupt."

# In Brief

## A better enzyme to help regenerate the spinal cord

Georgia Tech and Emory researchers have developed an improved version of an enzyme that disintegrates scar tissue formed when the central nervous system (CNS) is damaged. By digesting tissue that blocks regrowth of damaged nerves, the improved enzyme—and a new system for delivering it—could help speed recovery from serious injury to the CNS.

The enzyme, chrondroitinase ABC (chABC), must be supplied to the damaged area for at least two weeks following an injury to fully degrade scar tissue. It also must be infused repeatedly because it functions poorly at body temperature. The researchers were able to eliminate the thermal sensitivity of chABC and to develop a delivery system that allowed the enzyme to remain active for weeks without using implanted catheters and pumps. They published their results in the November 2 issue of *Proceedings of the National Academy of Sciences*.

"These results bring us a step closer to repairing spinal cord injuries, which requires multiple steps including minimizing the extent of secondary injury, bridging the lesion, and stimulating nerve growth," says Ravi Bellamkonda, a biomedical engineer at Georgia Tech and Emory.

At body temperature, chABC enzyme loses half of its enzymatic activity within one hour and its remaining functionality within five days. To stabilize it, Bellamkonda and Emory cell biologist Robert McKeon mixed it with the sugar trehalose. The enzyme's activity then remained stabilized at internal body temperature for up to four weeks.

The researchers then used a lipid microtube-hydrogel scaffold system to provide sustained delivery of the enzyme for two weeks. This delivery system also allowed the enzyme to diffuse deeper into the tissue than did catheter delivery.

In animal studies, the enzyme's ability to digest the scar was retained for two weeks post-injury, and the scar remained significantly degraded for at least six weeks.

## A 'guardian angel' hormone for breast cancer patients

While some of the hormones produced by the breast's fat cells are harmful, one such hormone acts as a "guardian angel" against breast cancer.

The hormone adiponectin is known to protect the body's metabolism and heart against the effects of obesity. Researchers at Emory's Winship Cancer Institute have found that adiponectin also can reduce the ability of breast cancer cells to migrate and invade other tissues.

"What kills someone with breast cancer is that the cancer cells learn to get away from the 'basement container.' They learn to migrate to the lung, liver, and beyond," says Dipali Sharma, a hematology/oncology researcher.

The key to translating this research from the lab to patient care lies in finding a way to increase a person's adiponectin, Sharma says. Anti-diabetic drugs known as thiazolidinediones increase adiponectin's activity, but they have toxic side effects. Adiponectin is present in plasma, but "the problem is that we need it to go where we want it," she says. "With an injection of a high level of adiponectin, you don't know what you might trigger. That's something we need to test."

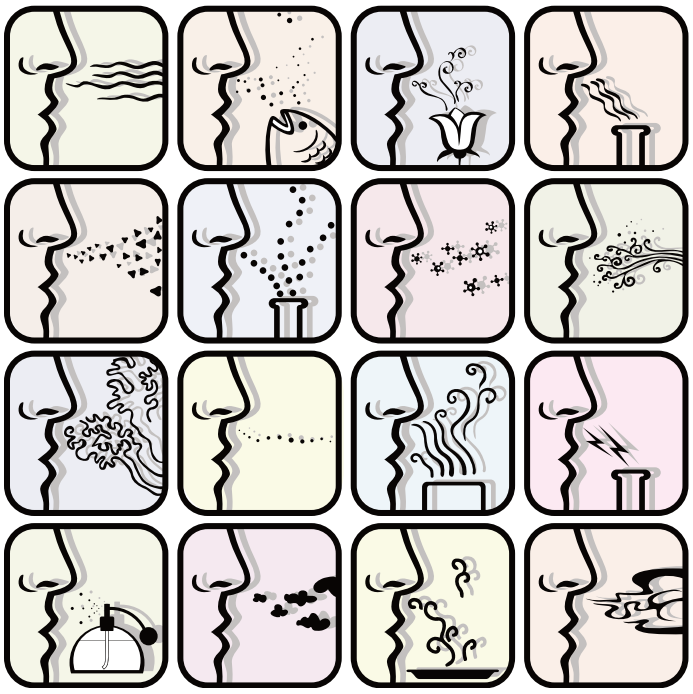
What can increase adiponectin is weight loss. Obese people have lower levels of adiponectin than people of normal weight and an increased risk of breast cancer. Low levels of adiponectin also were found in patients with aggressive tumors.

Winship scientists are testing a molecule found in certain foods, like grapes, cabbage, and green tea, that appears to mimic adiponectin.

The hormone leptin also is known to breast cancer researchers. Leptin is a satiety hormone, yet found in high levels in obese people. (Scientists theorize that obese people may be leptin-resistant.) Studies in mice predisposed to breast cancer have found that when leptin is turned off, the cancerous tumors cease to grow.

"We've only scratched the surface," Sharma says. "We might find a gold mine of molecules that may inhibit leptin or enhance adiponectin."

## Investigating muscle repair, scientists follow their noses



When muscle cells need repair, they use the odor-detecting tools found in the nose to start the process, Emory researchers have discovered.

Found on the surfaces of neurons inside the nose, odorant receptors are molecules that bind and respond to substances wafting through the air. Researchers have shown that one particular odorant receptor gene, MOR23, is turned on in muscle cells undergoing repair.

The finding could lead to new ways to treat muscular dystrophies and muscle wasting diseases and also suggests that odorant receptors may have additional functions in other tissues.

Several years ago, pharmacologist Grace Pavlath observed that MOR23 was turned on when mouse satellite cells—stem cells that renew muscle tissue—were fusing to form extended muscle fibers. At the same time, graduate student Christine Griffin noticed a Japanese report that MOR23 also is turned on in sperm cells and that it influenced their migration.

"Because Christine was writing a mock grant on MOR23 in sperm for a class assignment, we decided it would be fun to explore MOR23's function in muscle," Pavlath says.

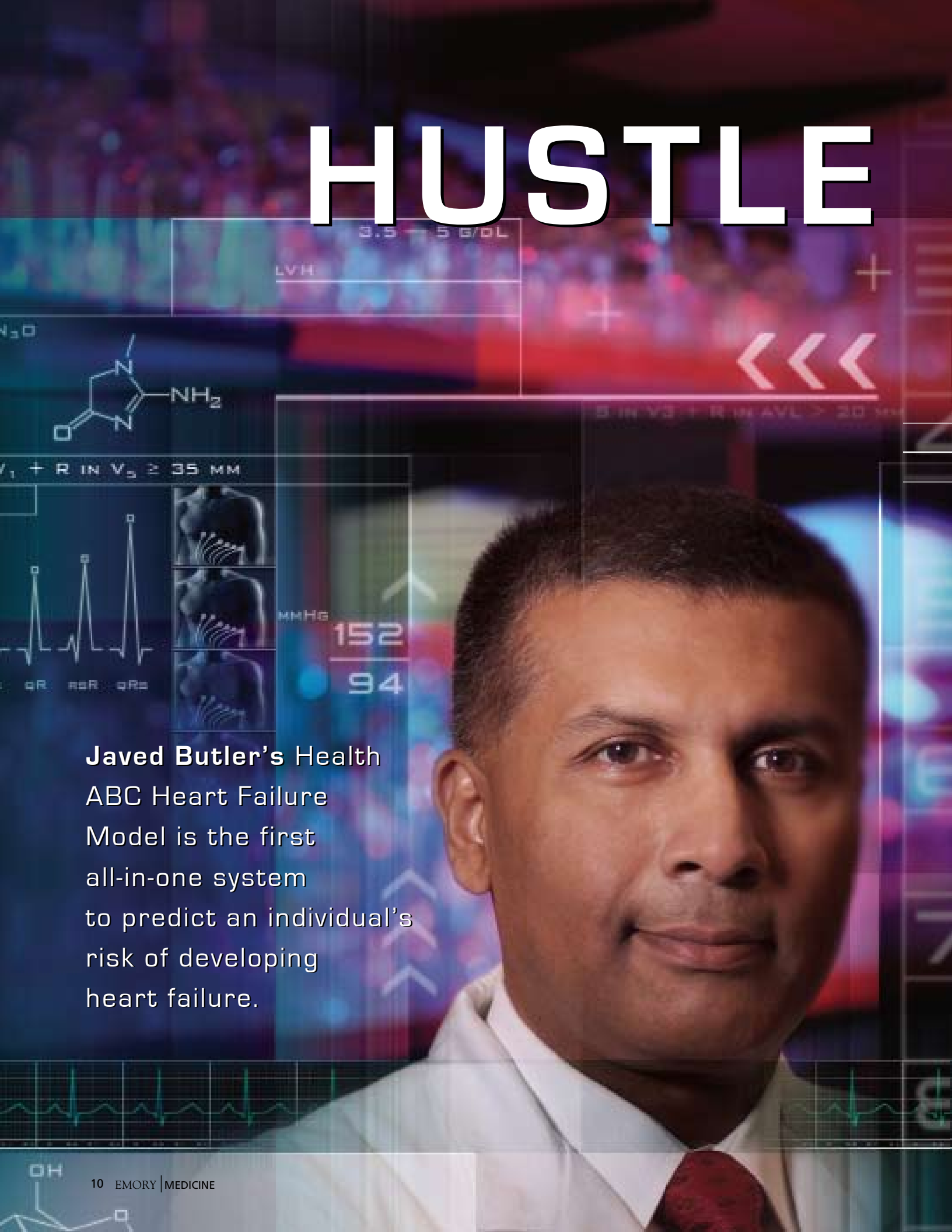
The human genome contains around 400 genes encoded as odorant receptors, and mice have more than 900. It is not clear what the MOR23 equivalent is in humans.

The team's results raise a number of intriguing questions about what odorant receptors do in muscle tissue. Pavlath says she wants to identify the molecule in the body that activates MOR23 and investigate what jobs other odorant receptors perform in muscle.

"There is a tremendous variation in humans as far as what odors individuals can recognize," she says. "Could this be linked somehow to differences in the ability to repair muscle?"

Every penny counts...when it comes to funding services at Grady Hospital. This past fiscal year, which ended August 31, 2009, the Emory Medical Care Foundation plowed $28.9 million into Grady to update equipment and support vital services. That amount is on top of the $23.1 million in charity care at Grady by Emory doctors.

# HUSTLE

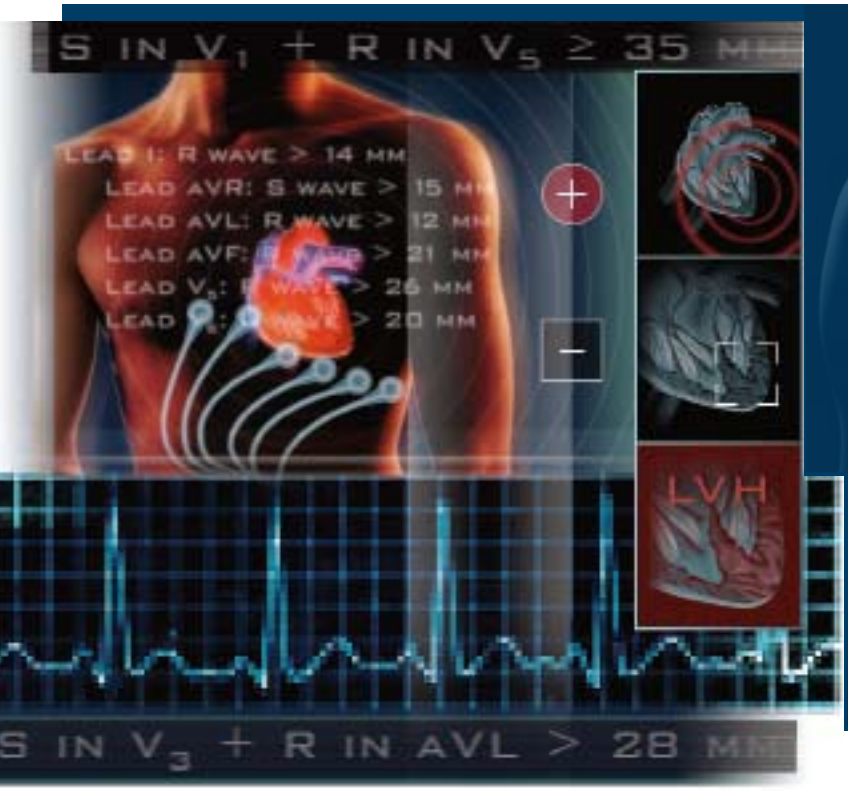


**Javed Butler's** Health ABC Heart Failure Model is the first all-in-one system to predict an individual's risk of developing heart failure.

# AND FLOW

Heart failure can be a final cause of death when the body's central engine runs out of steam, weakens, and finally stops pumping. Those living with heart failure can live with it for decades, although they may end up completely disabled for years. This chronic, progressive disease syndrome gobbles up a person's energy and breath, leaving them gasping, thirsty, and swollen with water retention. When a simple trip from bed to bathroom becomes a walk across a desert, their only hope may be a heart transplant.

By Valerie Gregg | Illustration by Ralph Kelliher




"Now we are working on models for effective interventions for intermediate- and high-risk patients," he says. "We're also stepping back to learn how to prevent heart failure, which is a dire need."—Javed Butler, director of heart failure research at Emory

Javed Butler, director of heart failure research at Emory, hopes to make that scenario an oddball outlier.

"We have gotten better at keeping patients with heart failure alive longer," he says. "Mortality has consistently gone down, although prevalence is increasing. But in terms of quality of life, when a person spends years hardly able to walk across the room, that is not a successful outcome."

Indeed, heart failure now afflicts nearly 5.7 million adults in the United States. Incidence is rising steadily, with about 670,000 new cases reported every year.

Because heart failure is a syndrome that springs from a mishmash of different causes, a cure is not easy to come by. Simply keeping symptoms under control is the aim of most treatment plans. Prescription beta blockers keep blood pressure under control, a low-sodium diet prevents water retention and lung congestion, and exercise maintains the heart's strength.

To truly lessen the burden of heart disease, says Butler, prevention and early intervention are key. Finding new ways to identify people at risk for developing heart failure—before damage is done—is his raison d'être and primary research focus.

Along with his colleagues, Butler recently created a statistical model, called the Health ABC Heart Failure Model, based on patient data to identify those at risk for heart failure despite its elusive and wide-ranging causes.

Study results affirming wide-ranging aspects of the model are currently published or in press in *Circulation, Cardiology, Archives of Internal Medicine,* and other peer-reviewed scientific publications.

The ABC model uses nine measures to estimate heart failure risk, including age, history of heart disease, smoking, blood pressure, heart rate, left ventricular hypertrophy measured by electrocardiography, and blood levels of glucose, creatinine, and albumin. Butler says this model is the first to combine heart failure risk factors into a system to predict individual risk.

"Now we are working on models for effective interventions for intermediate- and high-risk patients," he says. "We're also stepping back to learn how to prevent heart failure, which is a dire need."

## Pinning down the roots

Diabetes, obesity, heart valve problems, lung disease, heart attack, and irregular heartbeats are only some factors that can cause heart failure. "Pinning down the roots of heart failure can be confusing," says Butler. "Unlike some heart problems, heart failure is not one disease. It has a few com-


mon causes and a few less common, even rare, causes."

Heart failure occurs when the heart muscle loses pumping strength and no longer supplies enough oxygenated blood to the rest of the body. The body responds to a weak heart the same way it would to low blood volume from dehydration or bleeding. When there is too little to go around the entire body, blood diverts from peripheral vessels and arteries to sustain the heart and brain. Arteries and blood vessels throughout the body eventually narrow to keep blood pressure up.

Those with heart failure feel exhausted and short of breath. Their kidneys hold onto salt, making them constantly thirsty. They crave salt and fluid, which leaves them more congested, creating a vicious cycle. Over time, every organ system in the body suffers, including the heart itself.

## Addressing underlying causes

No one lives forever, but keeping heart disease risk factors at bay can help people make the most of their later years, says Butler.

"Without diabetes, obesity, smoking, or high blood pressure by the age of 50, a person is very unlikely to have clinical symptoms from heart disease for the rest of their lives," says Butler, who is deputy chief science officer for the American Heart Association. "But obesity and diabetes epidemics continue to worsen, contributing to even more heart failure. Also people who are treated for heart attack survive longer now but in turn live with a weaker heart. We need to focus on prevention and treatment in a comprehensive way."

In the past, he says, heart failure specialists "let the proverbial elephant get by while focusing solely on treating the resulting heart disease." Because heart failure is a complex chronic disease, prevention and successful treatment are related to psychosocial factors such as patients' literacy level, their comprehension of their treatment regimen, and their level of social support.

"We need to collect data for a variety of different players on the health care team," he says. "Surgeons, nurses, and social workers all look at heart failure from a different angle."

Butler has developed an infrastructure for a comprehensive cohort study of patients with heart failure. Researchers already have begun collecting comprehensive baseline data on patients at Emory hospitals and at Grady Hospital. Patients in the study return to the clinic every six months for follow-up.


"We have a dozen cross-disciplinary investigators on board to develop this cohort on one platform," he says. "Our questionnaires ask patients about their family histories and dynamics. Nursing is particularly interested in personal, cultural, and religious factors. We have a biobank to collect patients' blood, urine, and genetic markers. We read their echocardiograms extremely closely.

> "Surgeons, nurses, and social workers all look at heart failure from a different angle."—Javed Butler

"The idea behind this study is not just to answer my own questions about heart failure, but also to answer those of nurses, pathologists, geneticists, cardiothoracic surgeons, and cardiologists."

Butler's team is collaborating with the CDC and the Cleveland Clinic to run blood and tissue samples through their labs. Finding funding to carry out the entire project, which will go on for several years, is in the works.

"We are preparing to do research that nobody has done before that we hope will make life better for many, many people," he says. **EM**

## Keeping tabs on heart patients, from afar

The number of heart failure patients at Emory University Hospital (EUH) and EUH Midtown has ballooned considerably over the past 10 years, and physicians have found new and innovative ways to take care of their patients, says Andrew Smith, Emory's medical director of heart failure and transplantation for Emory Healthcare.

One such tool is telemonitoring, which allows physicians to gather more data and provide better care while minimizing inconvenience to patients. "About 85% of heart failure patients admitted to the hospital have salt and water retention," says Smith. "Remotely monitoring our patients' symptoms helps reduce hospitalizations and extends clinic visits into the home."

A telemonitoring system using a cell phone can send the clinic a patient's weight every time they step on a scale. Using another automated phone system, patients can call a central number every day, enter their weight, and answer a list of yes-or-no questions. A nurse practitioner reviews their answers daily. If a patient gains more than 4 pounds in one day or if their symptoms indicate a problem, they are called to come in to the clinic.

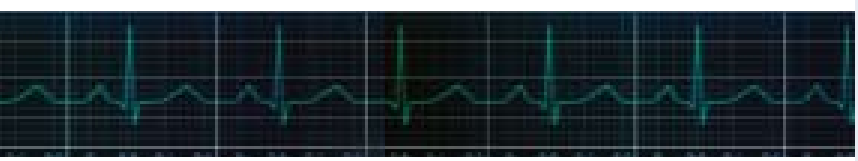
Surgically implanted pacemaker defibrillators help patients whose heart failure is complicated by heart arrhythmias. Sensor technology detects abnormal heartbeats, and the defibrillators pace or shock the heart back into rhythm.

"One company has Bluetooth technology," Smith says. "If the patient steps on a scale, the information goes to the defibrillator. At night the information is logged onto a central computer system. We can track it and see if there's a weight increase over a few days." Another remote device can measure electrical signals across the lung, which measures fluid retention.

Smith is eagerly anticipating the completion of clinical trials now under way at EUH and EUH Midtown for several investigational telemonitoring devices.

"One experimental device called Cardiomems is a sensor implantable in the pulmonary artery," he says. "The pressure in the pulmonary artery goes up when heart failure is worsening. Cardiomems transmits important information to us early enough so we can get the blood pressure under control before too much damage is done and the patient needs to be hospitalized."

Keeping heart failure patients healthy is Smith's ultimate aim.



# Looking in the rearview mirror

## Reflecting on clinical experiences can yield important insight into compassion

By Kay Torrance

**The Emory resident was on call on Thanksgiving Day, and sure enough, he was paged to come to the hospital.** Irritated that he was missing the rest of his holiday with family and friends, the resident walked into the hospital with less pep in his step than he usually had. Little did he realize that that day would mark a defining moment in his training.

He ended up spending his dinner break with his patient. He sat down in a chair beside the patient's bed, with reheated leftovers from the Thanksgiving meal he had missed. The patient took his dinner through a feeding tube. The two ending up talking for quite some time, and the resident began to see things through the eyes of his patient. Yes, he had to spend Thanksgiving working, but the patient missed the holiday altogether.



The resident recounted this day in a written piece for Kimberly Manning, an internist at Grady Hospital who directs Emory's Transitional Year Residency Program. Manning asked her residents to write about an experience—good or bad—that made a lasting impression on them. Thinking about the experience later, the resident wrote that he would not have changed that day for anything.

## Becoming a "habitual reflector"

Manning herself regularly writes about her experiences as a doctor. She calls it "habitual reflection" and believes that the practice is vital to developing good doctors. She regularly asks herself about interactions with patients and imagines herself in their place. What was the patient feeling? How would I feel in the same situation? Did the patient process everything I said?

These are the kinds of questions she wants medical students and residents to ask themselves regularly. By examining experiences that were rewarding, saddening, or even frustrating, they can become better doctors, she says.

Previously, doctors were encouraged to be compassionate but to keep emotional distance from their patients. Today, some medical schools, like Emory's, are stepping beyond teaching traditional doctor-patient communication and putting students more in touch with the feelings and experiences of patients.

With the help of their faculty advisers, Emory medical students learn how to break bad news in a caring manner, to listen effectively, and to perceive and acknowledge the patient's feelings. They learn to read patients' body language and to be aware of how their own body language influences patients' perceptions.

Traditionally, such abilities were thought of as character traits—a doctor either had them or not. A doctor was either caring or not, for example. A recent study, however, shows that these attributes can be improved by education. Practicing doctors who had little or no training in communicating to patients could still learn to be a more caring doctor.

The study showed that medical school faculty who learned how to provide constructive feedback and teach caring attitudes were perceived to be more effective teachers. And there's another big payoff: Faculty who've gone through such training feel that doctoring is more rewarding.

"The result was a radical change in my practice," says William Branch, chief of general internal medicine at Emory. Branch was trained in the techniques when he worked at Harvard in the 1980s and was so impressed that he quickly signed up to teach them to other faculty and residents. "My patients appreciated my interest in them more so than the medical details I was telling them. They were soon telling me how much they appreciated what I was doing for them."


*With the help of their faculty advisers, Emory medical students learn how to break bad news in a caring manner, to listen effectively, and to perceive and acknowledge the patient's feelings.*

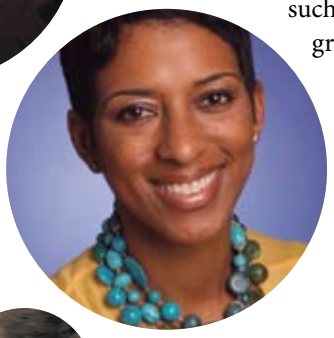
Branch recently led a study at five medical schools, including Emory's, which showed an 8% to 13% improvement in how students and residents rated faculty who had undergone special training to learn humanistic techniques versus

*"I became more aware of my interaction with students and patients. As a mentor, I have to be aware of how I talk to people. Reflection does that."*—Lisa Bernstein

those who had not. The trainees completed a questionnaire on which they rated faculty on "listening carefully to connect with others" and being known as a "caring person."

Faculty in the study were coached on using role playing, writing reflective assignments, and giving feedback. Participating in the study forced Emory internist Lisa Bernstein to take more time to reflect on her actions, she says.

"I became more aware of my interaction with students and patients," she says. "As a mentor, I have to be aware of how I talk to people. Reflection does that. Humanism should permeate everything we do."



How did the patient perceive my body language?

What was the patient feeling?

The medical school's new curriculum allows for more time to spend on such topics, Bernstein says. At the center of the curriculum are society groups, in which every medical student is assigned to a faculty adviser. (Each class is broken into four societies, and then each society is broken into groups of 8-9 students.) Each group stays with the same adviser for all four years of medical school.

At one such group meeting in June, students met to talk about how to break bad news to patients. They role-played, critiquing each other on demeanor and body language, reading the patient's expression, and responding to patient concerns and questions.

"The hardest thing we have to do is sit there and be quiet while the patient processes bad news," Bernstein told the students. "But that's what we need to do. We all have a tendency to keep talking when we are uncomfortable."

"Are we just to sit there and not say anything?" asked a student, who said that remaining silent felt uncomfortable.

"Yes, because that's what the patient needs," she replied.

Teaching humanistic behavior to students before they enter their residencies is especially important to ingrain the practice, Branch says. Studies have shown residents usually are burned out and build coping mechanisms, such as displaying sardonic humor.

"Residents are deeply engaged in mastering the profession," Branch says. "It doesn't leave much room for reflecting on the patient."

## It's never too late

Manning, though, doesn't think it's too late for residents who come to Emory from other medical schools to pick up humanistic behaviors. She'll take whatever time is available to teach them reflection.

Manning, who also participated in the study, says true reflection wasn't a skill she picked up in medical school when she attended in the mid-1990s. Later, as a dual pediatrics/internal medicine resident in the neonatal intensive care unit, she felt conflicted and upset about taking great measures to save very premature babies. But she had no outlet for her feelings, except a good cry in the stairwell.

"I was so conflicted—what would these fragile babies' lives be like," she says. "If I had been in this mode of habitual reflection, my experience would have been completely different. Talking about your feelings will make a big difference later."

Since then, she has learned to funnel her feelings into writing and reflecting. Each year, Manning asks her 24 resi-

dents to do two written essays, called "Appreciative Inquiries," on a positive experience. She purposely assigns the first one in December, when the residents' long hours are catching up with them and they are homesick. She wants to remind them why they became doctors.

"They write incredible pieces," she says. "If they become habitual reflectors at this age, it will be something they do easily for the rest of their lives."

Learning and teaching humanistic behavior has been immensely rewarding, she says. "I thought I was caring before, but the training made everyday experiences richer," Manning says. "It makes you better at everything." **EM**

**ONLINE:** To read Kimberly Manning's blog, *Reflections of a Grady Doctor*, access gradydoctor.blogspot.com

# Reflective essays*
## written by students

I always imagined a physician's duty to inform a patient he or she has cancer a most difficult and unenviable one. I had the chance to be present when an Emory doctor did just that. I was incredibly surprised at how the interaction proceeded. The doctor did not waste any time getting the bad news out. He sat down, looked the patient in the eye, and told him what the pathology report revealed. What astonished me was the lack of surprise in the patient and his family. The disbelief and demands for further testing that I always had assumed would happen, simply did not. And the physician, instead of having to defend his diagnosis, got the opportunity to do something amazing: offer some hope to his patient.

Although there were tears shed by the patient and his family, the doctor skillfully moved beyond the dark horizon of cancer to the promise of brighter skies in the future with a little luck and a little work. **The doctor's professional, but supportive and understanding, disposition that he assumed with the patient probably did wonders for everyone in the room.** The doctor has the terrible responsibility to deliver such news to his patients, but he also has the awesome privilege to help them move past the diagnosis to action and hope for the future.—STUDENT 12M

Mr. R was a 35-year-old construction worker who presented to the neurology clinic with progressive weakness in his upper extremities and extensive fasciculations of his upper arms. His primary care physician had referred him to Dr. X for evaluation of ALS. For anyone who has worked with Dr. X, he comes across as a bit gruff to his trainees.

Dr. X draped his hands over his knees, clasped his hands together, looked Mr. R right in the eye, and said, "Has [your primary care physician] spoken to you about ALS? Because I believe very strongly that this is what is going on here." Mr. R didn't say anything; he just broke down right in front of us. Dr. X let him cry for a few minutes before touching him gently on the knee and saying, "There are probably questions that you don't even know you have yet, and I will be happy to help with those when they arise. In the meantime, there is a specific protocol we take with patients when they are first diagnosed with ALS. Would you like us to take care of that on this visit or schedule for another time?"

While all this was something Dr. X had said many times, that didn't make it any less effective or less professional. The message still retained the necessary empathy, and it still felt genuine. It would take many pages to convey the inflection in his voice or the small mannerisms conveying only the deepest sympathy, but please believe that it was there. **I learned that the specifics of the bad news that I am delivering to a patient are not as important as making sure they understand that my deepest feelings of sympathy and empathy are being conveyed in the nonverbal communication.**—STUDENT 11M

*"I agree that healing and curing a patient aren't necessarily the same thing, and we can still heal even if we can't treat."*—STUDENT 11M

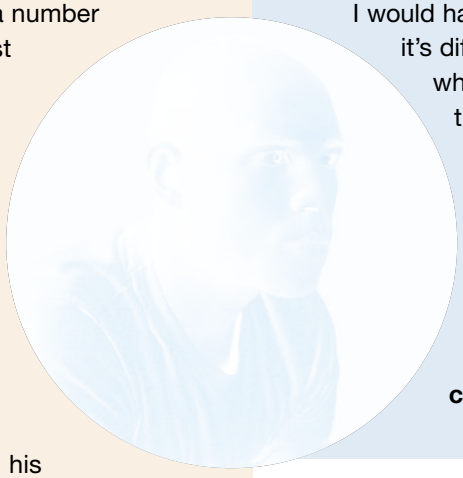
*"I believe the ability to communicate and show compassion to a patient in light of any bad news is truly the hallmark of a physician's greatness."*—STUDENT 11M

**I became more aware of my interaction with students and patients**

The patient was a 50-year-old man who had worked as an airline baggage handler and had begun to trip over his feet and show other signs of muscle weakness. He was referred to the neuromuscular disease clinic to confirm a diagnosis of ALS. Dr. X examined the patient and explained to him and his wife that his findings were consistent with ALS. The patient reacted pretty soberly to the news; I distinctly remember he did not show any outward signs of being upset. His wife was trying very hard to stay composed while they were in the office.

The patient and his wife asked Dr. X a number of questions, but they seemed to be most interested to know over what period of time the patient's muscle strength would deteriorate, eventually leading to his death. Dr. X was very forthcoming about the fact that for now that wasn't something he could answer.

This experience was, not surprisingly, somewhat depressing. A disease like ALS is difficult for everyone involved; the patient has to come to terms with the fact that he will slowly (or quickly) lose all voluntary muscle control, his wife has to resign herself to losing her partner, and the doctor can do essentially nothing to alter the course of the disease. Despite the fact that they can't always do a lot to treat ALS, the physicians and staff made it a priority to comfort patients and alleviate their suffering to the extent that they can. **I can't remember where I heard this, but I agree that healing and curing a patient aren't necessarily the same thing, and we can still heal even if we can't treat.**—STUDENT 11M

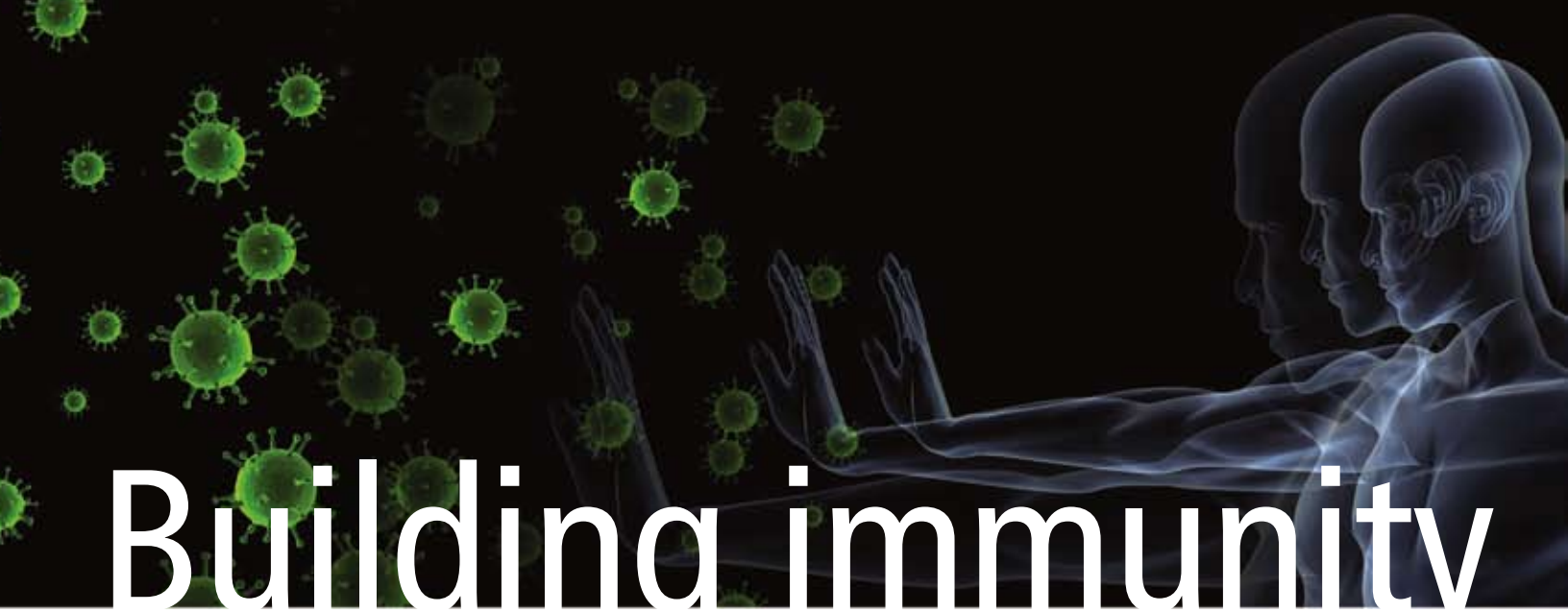


After a long morning of pediatric neurology rounds, my team went to see one last patient for a consult with his parents. He was a 3-month-old boy with congenital herpes simplex virus. I watched my attending speak to his parents. In a calm voice she told them, "It is hard to know at 12 weeks what he will and will not be able to do as he grows. He will be dependent on you for the rest of his life." As the mother's face grew ashen, the attending said to her, "I know this is a lot to take in and that you must have questions. Do you have any questions for me?" The mother responded, "No." "Well here's my card," the attending said. "You can call me anytime, even if you just want to talk." The parents said, "Thank you."

I felt very sad and sorry for the parents. I wished there was something I could do to help them, and I felt naturally inclined to give the mother a hug, although I did not. This was their first child and to have something debilitating like this happen was awful. I thought that the doctor handled the situation well; she was calm and relatively diplomatic. I would have tried to explain it a little better, but I think it's difficult to really get a patient to understand what's happening when they are still in shock themselves.

**Although having a breadth of medical knowledge and ability to apply it are vital hallmarks of a physician, I believe the ability to communicate and show compassion to a patient in light of any bad news is truly the hallmark of a physician's greatness.**—STUDENT 10M

**These essays were written by Emory medical students as an assignment for their society mentor this past summer. They are reprinted here anonymously and unedited, with the exception of names listed within the text. The photos are not representative of the authors.*



# Building immunity

## ADVANCES WILL HELP PUSH FLU VACCINES TO MORE PEOPLE, MORE QUICKLY

By Dana Goldman

Down a long hallway on the third floor of the Rollins Research Center, the scientists of Richard Compans' lab are hard at work, imagining the unimaginable: A time when patients can self-administer flu vaccines. A time when vaccination does not require exposure to inactive viruses. A time when a universal vaccine could protect from all varieties of influenza: swine, avian, seasonal, and strains still emerging.

But it's not just hope that motivates them as they work. Emory's scientists are fighting the clock against another possible future: a time of pandemic and uncontrollable virus mutation. The recent emergence of H1N1 and H5N1, known colloquially as swine flu and avian flu, have added an even greater sense of urgency to their task.

"The H5N1—the virus derived from avian species—has a 60% mortality," says Emory microbiologist Sang-Moo Kang. Yet that strain of influenza hasn't resulted in many human deaths, because, so far, avian flu spreads only to humans who are in contact with infected birds.

But researchers anticipate that H5N1 might mutate and gain the ability to spread through human-to-human contact. Kang says that would be a devastating game changer. "Once it has come out with some mutation and obtained the capability to transmit among humans, it will be a huge issue. You can imagine how serious it might be," Kang says.

### A no-virus vaccine

On a Sunday late last April, Kang's telephone rang. It was his boss, Richard Compans, professor of microbiology and immunology in the medical school. Reports were just coming out about a possible swine flu pandemic. Television news was showing people wearing surgical masks over their faces. The United States was declaring a public health emergency. Compans was getting the first of what would be a blizzard of calls from journalists, all trying to make sense of what was happening.

It was exactly what the laboratory scientists had feared, and it was a situation for which they were prepared.

For eight years, Kang has been working on vaccines at Emory, with steady progress. He and his colleagues have pioneered virus-like particles (VLPs), empty particle shells that mimic the shape of viruses and stimulate the body's immune system to fight back against the perceived threat. Unlike conventional immunizations, VLPs don't actually contain viruses, and their use dramatically limits the possibility of side effects. Also unlike conventional immunizations, they can be produced without using chicken eggs to cultivate the vaccine. "If there's a pandemic and if it derives from the avian species, it may affect the poultry farms that supply the eggs for making vaccines," says Kang. "We can't rely on egg supply."

Just a month before the swine flu outbreak, the lab had published a paper on VLP technology, proving that the particles successfully immunized mice and that immunity wore off more slowly than that

induced by conventional flu vaccines in humans. "In a mouse, two years is the average lifespan," Kang says. "We have confirmed that the VLP immune system in mice can last 18 to 20 months. So this protective immunity is maintained for about their lifetime."

In addition, the scientists had discovered another positive about VLPs. Vaccines grown conventionally typically take six months to get to market. Not so with VLPs, says Kang: "After identifying the genes to construct and make the VLPs, we can start to produce vaccines in four to six weeks."

In other words, a burdensome delay in vaccine distribution could be averted if VLP technology worked as well with swine flu as it had with seasonal influenza in mice. "So immediately we contacted the CDC," Kang says. The Georgia Research Alliance awarded the lab and the CDC a grant to test out the VLP vaccine system with the H1N1 virus in animal models. "It's a very good opportunity to prove our alternative vaccine system in this pandemic situation," says Kang.

**Lower costs, no needles, fewer doctor visits. Less need for vaccine-producing eggs. As they hone their vaccination systems, Emory researchers also are focusing on new implications for their work: If you can give a patient a patch for the seasonal flu, why not also provide a patch for hepatitis or chicken pox?**

### Patch it

If VLPs do eventually prove useful to people, they will not be alone in changing the landscape of vaccinations. After all, there are both geography and patients' personalities to consider. Some people live far from doctors, and others avoid vaccinations because of fear of side effects or needles. Those populations would be particularly vulnerable in the case of a pandemic.

But those patients may soon fear not. Compans' lab has been exploring not just new systems of vaccination but also an alternative to needle-injection vaccination, called microneedle skin patches. The patches have microscopic, barely-visible needles on their surfaces. "We coat the microneedles with inactivated flu virus or flu virus-like particles," says Emory microbiologist Ioanna Skountzou. The patches are temporarily applied to the skin like a bandage, and the vaccine is slowly absorbed through the skin.

In April, Skountzou, Emory colleagues, and collaborators from the Georgia Institute of Technology published a paper in *Proceedings of the National Academy of Sciences* detailing the value of skin patches. The researchers showed that microneedle skin patches were just as effective as injected vaccines in immunizing mice from seasonal influenza.

The microneedle skin patches could bode well for difficulties with vaccine distribution and for those with needle phobias, says Skountzou. "It can be delivered by mail and can be sent to remote places with no health care providers. It can be tolerated by patients and children with fear of injections," she says.

The skin patches have other advantages as well, says Skountzou. The skin patches are effective with a smaller vaccine dose—called vaccine sparing—than what works in typical injected vaccinations. "Vaccine sparing has several advantages. It can help eliminate side effects caused by the vaccine (skin irritation, swelling, pain), and it is less costly but can still cover the population needs," Skountzou says.

In new ongoing studies, the team is testing the microneedle skin patches on animals like guinea pigs. Skountzou is also combining the microneedle skin patch delivery with adjuvants that further stimulate immune response. She's hoping that adjuvants boost immunity, permit lower doses of vaccine, and drive per-patient costs down even more.

Lower costs, no needles, fewer doctor visits. Less need for vaccine-producing eggs. Skountzou, Kang, and their colleagues have found better ways to prevent illness and contagion. Now, as they hone their vaccination systems, they're also focusing on new implications for their work: If you can give a patient a patch for the seasonal flu, why not also provide a patch for hepatitis or chicken pox? If you can create VLPs mimicking an influenza strain, why not try a VLP to trick the body into fighting other diseases, or all influenza varieties at once?

"We can tackle many diseases and many viruses," says Kang. "It's very exciting." EM

# Giving a gold standard back its luster

**RUTH O'REGAN IS LEADING AN EFFORT TO GIVE THOSE WITH HER2-POSITIVE BREAST CANCER ANOTHER OPTION WHEN THEY DEVELOP RESISTANCE TO HERCEPTIN**

By Martha Nolan McKenzie

When Carolyn Akin discovered a lump in her breast, the prognosis was grim. Her initial diagnostic visit confirmed that she had HER2-positive breast cancer, which had already spread to her lungs, liver, and bones.

**That was nearly 3½ years ago.** Today the soft-spoken 68-year-old retired psychologist is still enjoying gardening, bird watching, and playing with grandchildren. "I can still go everywhere and do everything I want to do, I just can't do it for as long as I used to," says Akin.

Akin credits her continual good health to the care she has received at Emory's Winship Cancer Institute, which for the past two years has included participation in a clinical trial. As part of the trial, Akin has been receiving a drug called Afinitor (everolimus) along with chemotherapy and Herceptin (trastuzumab). Led by Emory oncologist Ruth O'Regan, the trial is testing whether Afinitor can reverse resistance to Herceptin in metastatic HER2-positive breast cancer patients.

In Akin's case, the answer seems to be yes. She reports that all the tumors save the original one in her breast are gone.

"Carolyn has had an unbelievable response to these study drugs and has been on this therapy longer than any other patient in the trial," O'Regan says. "It is remarkable, particularly because she has had almost no toxicity."

## Why Herceptin works

About 25% to 30% of breast cancers are HER2-positive, which means they test positive for a protein called human epidermal growth factor receptor-2 (HER2). This protein promotes the growth of cancer cells, making HER2-positive breast cancers more aggressive than other types. They also tend to be less responsive to hormone treatment. That's the bad news. The good news is that this type of cancer responds extremely well to Herceptin.

Herceptin specifically targets HER2 cells, killing them while sparing healthy cells, so side effects are minimal. Its effectiveness has made Herceptin the gold standard of treatment for HER2-positive breast cancer.

"Most patients with HER2-positive breast cancer are cured at their initial diagnosis because they get Herceptin and chemotherapy," says O'Regan. "Five years ago, these patients had a very high recurrence rate over the first five years after diagnosis and were very likely to develop metastatic disease. But now with Herceptin, the rate of developing metastatic disease is pretty low—10% or maybe even 5%."

Oncologist Ruth O'Regan saw promising results from clinical trials of Taxol and Afinitor in Herceptin-resistant patients.

The problem is, some cancers are resistant to Herceptin. "We know that about 10% of patients who present with HER2-positive breast cancer have cancers that are resistant to Herceptin at the time of diagnosis," says O'Regan. "Once HER2-positive breast cancers become metastatic, almost all of them will become resistant to Herceptin at some point."

That's what happened to Akin. "As soon as I was diagnosed, Dr. O'Regan started me on Herceptin and Taxol," says Akin. "That worked really well for about a year and a half, but then the disease started to grow again. So Dr. O'Regan enrolled me in a clinical trial taking Herceptin, Taxol, and RAD001 (Afinitor). The RAD001 apparently makes the cancer cells receptive to Herceptin again."

## Finding a helper for Herceptin

Afinitor, an oral mTOR inhibitor, is an investigational drug that acts on the pathway that is believed to mediate Herceptin resistance. "We don't really know exactly how it works, but mTOR inhibitors basically block cell signaling quite far downstream from the HER2 receptor," says O'Regan. "Researchers here at Emory have demonstrated that mTOR inhibitors also activate what's known as the Akt pathway. One theory is that the activation of the Akt pathway actually resensitizes the cells to Herceptin, but that's just a theory."

Whatever the exact mechanism, the results from the Phase I clinical trial were very promising. Twenty-five heavily pre-treated Herceptin-resistant women received a combination of Herceptin, Taxol and Afinitor. About 45% had their cancer shrink, and almost 80% had disease control, which means their cancer either got smaller or it didn't get any worse.

"Overall, in this kind of setting, you'd expect to see a disease control rate of something like 40% to 50%," says O'Regan. "So we were very encouraged by the results we got."

O'Regan's team also studied a subset of patients with cancers that were not only Herceptin resistant but also were resistant to taxanes—a group of chemotherapy drugs that includes paclitaxel (Taxol) and docetaxel (Taxotere). "So these were very resistant cancers," says O'Regan. "In that group, the disease control rate was about 85%—even higher than the Herceptin-resistant group. These results suggest that Afinitor is reversing resistance to these drugs."

O'Regan's team is participating in a multi-site Phase II clinical trial that they hope will confirm the promising results of the Phase I trial. She hopes to have data from the Phase II trial early this year. A Phase III trial is ready to begin in January.

"We know this combination isn't going to cure these cancers, but the aim of treating metastatic breast cancer is to extend meaningful life," says O'Regan. "If you can control the disease for a long time with an agent that is nontoxic, that is definitely a good outcome. We don't just want to extend their survival, we want their quality of life to be as normal as possible." **EM**

# Gifts & Support

## Executive health

Lyle Finley, founder of the Golden Gallon convenience store chain, recently pledged $200,000 to support research in the medical school. The gift will create two Lyle Finley Discovery Funds, one in executive health and one in otolaryngology.

Emory's Executive Health Program, under the leadership of internal medicine specialist David Roberts, offers comprehensive, detailed evaluations and customer service tailored to meet the needs of busy executives.

Finley, who helped run his family's country store in Rutledge, Tenn., grew Golden Gallon convenience stores from a local franchise to a regional Southeast chain. When he sold the company to Bi-Lo/Royal Ahold in 2000, sales at Golden Gallon had reached $300 million.

**"We see more than 1,000 patients a year at our Executive Health Program, all predominately focused on wellness and prevention."**

— David Roberts

Over the years, as he ran his company, Finley would travel to the Mayo Clinic in Jacksonville, Fla., for health care, even taking his executive staff to Florida from Chattanooga for annual checkups. When Emory opened its executive health program, Finley scheduled an appointment and met with Roberts. He liked what he saw.

"Having a program that is focused on the needs of executives is beneficial," Finley says. "They take into consideration the schedules many executives keep by expediting your care, and they provide follow-up that you may not get elsewhere."

"We see more than 1,000 patients a year in our Executive Health Program, all predominately focused on wellness and prevention," says Roberts. "This population gives us a wealth of data to help evaluate and test new areas of interest. This discovery fund, especially if we can grow it, will allow us to have the technology and personnel to use this wealth of data to evaluate trends in health and wellness and identify new areas for research."

Roberts referred Finley to otolaryngologist John DelGaudio for treatment of his longtime sinus problems, and Finley wanted to express his gratitude to both doctors with gifts to Emory.

DelGaudio directs the Sinus, Nasal, and Allergy Center, and the Finley Discovery Fund in Otolaryngology will support the center's research and teaching efforts.

Internist David Roberts leads Emory's Executive Health Program, which received a gift from a grateful patient. The gift will help enable the Executive Health Program to identify new areas to research.

## Help make a doctor

**Come August, the class of 2014 will arrive. They will be at the bedside of patients in their second week, thanks to the School of Medicine's new curriculum. Six weeks into their first year, they will learn how to give an entire physical exam. Central to these efforts is a stethoscope. For the past three years, M1 students have received a stethoscope provided by alumni. For 138 expected students and $90 per stethoscope, the fund needs more than $12,000. To make a gift, please visit www.emory.edu/give, select School of Medicine and type Stethoscope Fund under "Other Designation."**

# Relieving student debt

The Rogers family on vacation in Colorado.

Adam Rogers 92C 96M and Stephanie Fireman Rogers 92C knew the high price tag of education when they were in school at Emory University. They wanted qualified students to be able to choose Emory freely, regardless of their financial situation, and established two scholarships to help them do that.

"We both loved Emory and looked at the scholarships as a means to open the Emory experience for others," says Adam Rogers, a retina specialist and faculty member at Tufts University School of Medicine in Boston. "We want to help people who have the ability to be accepted, but who might not be able to afford it."

The Rogers established one scholarship in the School of Medicine and another in the Emory College of Arts and Sciences for students who qualify for the Emory Advantage program. Emory Advantage reduces student debt for students from low- and middle-income families.

The Rogers' ultimate goal is for each of the scholarships to provide full tuition for one student in the medical school and one student in the college every four years.

Medical student debt is threatening to become unmanageable for young physicians. According to a report by the Association of American Medical Colleges (AAMC), medical school graduates with debt in 2006 owed about $130,000 on average on graduation. Mean physician income is estimated to be $216,000. Primary care physicians earn an average of about 30% less than the mean, according to the AAMC.

**"We both loved Emory and looked at the scholarships as a means to open the Emory experience for others. We want to help people who have the ability to be accepted, but who might not be able to afford it."**

— Adam Rogers 92C 96M and Stephanie Fireman Rogers 92C

The national report on student debt and education costs, updated in fall 2007, indicated that indebtedness rates are growing at an average of 5.9% for private medical school graduates and 6.9% for their public school counterparts each year.


TOTAL GOAL: **$500 MILLION**

RAISED TO DATE: **$346 MILLION**

# Class Notes | alumni news

Evan Weisman 63M 70MR

Frederick Turton 73C 77M

David Chow 78M 78PH

Joseph Stubbs 79M

## 1950s

**Harper Gaston 55M 61MR** recently self-published *A Heritage Lived Up To & Beyond,* a collection of stories told to him by his grandmother. His grandmother, Louise Frederick Hays, was a state archivist for Georgia and a historian. Gaston lives in Greenville, Ga., along with his wife, **Anne 55M 60MR.**

**Philip Schley 56M 65MR** retired after 40 years as a surgeon in Columbus, Ga. He was elected chair of the board of education of the Muscogee County School District in January 2009.

## 1960s

**Cecil Wilson 57C 61M** of Winter Park, Fla., was named president-elect of the American Medical Association. He will become president of the organization in June 2010. Wilson also has served as president of the Florida Medical Association and chaired its board of governors and executive committee. A former chair of the American College of Physicians (ACP) Board of Regents, he received the Florida Medical Association's certificate of merit and the Laureate award from ACP.

**Evan Weisman 63M 70MR** of Atlanta, received the 2009 Laureate Award from the American College of Physician's (ACP) Georgia Chapter. The award is presented to members who have demonstrated by example an abiding commitment to excellence in medical care, education or research to their community and to the ACP.

## 1970s

**Frederick Turton 73C 77M** was elected chair of the board of regents of the American College of Physicians for 2009–2010. He has served on the board since 2003. He is an internist in Sarasota, Fla., and chair of Emergent Health Technologies. He received an MBA from the University of South Florida in 2007.

**David Chow 78M 78PH** was named president of the Medical Society of Northern Virginia and was selected to participate in the 12-month long Claude Moore Physician Leadership Institute. He is an ophthalmologist in Reston, Va.

**Ramon Suarez 74C 78M 82MR** was elected assistant secretary of the American College of Obstetricians and Gynecologists (ACOG). He is medical director of ob-gyn graduate education at Piedmont Hospital and clinical professor at Emory. He has been an ACOG member since 1980 and has served as its president and on its executive board. He is a past president of the Georgia Obstetrical and Gynecological Society. In 2007, the School of Medicine presented him with the Alumni Award of Honor.

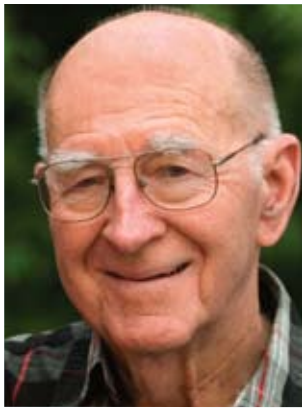
**Joseph Stubbs 79M** was elected president for 2009–2010 of the American College of Physicians. He is an internist in Albany, Ga. He served two terms on the college's board of regents and is chair-elect of its foundation for 2009–2010.

## 1980s

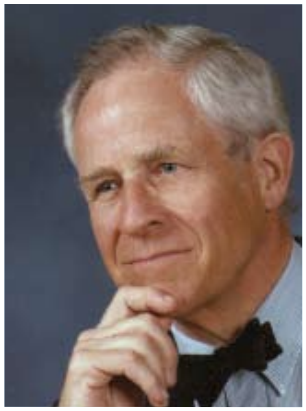
**Penny Castellano 85M 88MR** was selected for the 2009-2010 class of fellows in the Hedwig van Amerigen Executive Leadership in Academic Medicine (ELAM) Program for Women at Drexel University College of Medicine. ELAM is the only national program dedicated to preparing senior women faculty for leadership at academic health centers. Castellano is an associate professor of obstetrics and

Mygleetus Williams Wright 81C 85M 88MR

Jonathan Ratcliff 01MPH 08M



Henry Herbert Bryant III 42C 44M



Forest Funk Jr. 41C 44M

gynecology at the School of Medicine and chief quality and medical officer at The Emory Clinic.

**Mygleetus Williams Wright 81C 85M 88MR** of Warner Robins, Ga., retired from the Air Force as a colonel in August 2008. She works part-time at Cornerstone Pediatric Associates and is part-time public health faculty at Fort Valley State University. She received her master's of public health from Wright State University in 2006.

## 2000s

BORN: Noah Jay to **Jonathan Ratcliff 01MPH 08M** and his wife, Megan, on March 21, 2009. Ratcliff is a resident in emergency medicine at the University of Cincinnati.

## Residency Notes

BORN: Twins Jacob Charles and Joshua Haskew to **Jason Cole** (cardiology) and wife, Jennifer, on September 24, 2008. Cole is a cardiologist in Mobile, Ala., and is on faculty of the University of South Alabama College of Medicine.

Twins Jacob and Joshua born to Jason Cole

**Sandra Narayanan** (neuroradiology) has joined Wayne State University in Detroit as an assistant professor in the Departments of Neurosurgery and Neurology.

**Mark Pfeifer** (internal medicine) was named chief medical officer for the University of Louisville Hospital and the James Graham Brown Cancer Center. He also serves as professor of medicine at the University of Louisville.

## Deaths

### 1930s

**John Chamblee 38M** of Nashville, N.C., on July 14, 2007. He was 93.

**Robert Dickes 34G 38M** of New York on April 26, 2009.

### 1940s

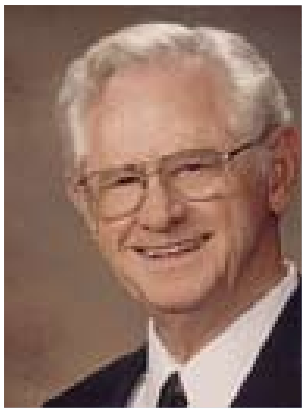
**Francis Gibson Jr. 40M** of Memphis, Tenn., on May 15, 2009. He worked for the VA's Spinal Cord Injury Service for 30 years. He was preceded in death by his wife, Ruth, and is survived by his son, Francis Gibson III, and his daughter, Deborah.

**John McCoy Sr. 40M** of Moultrie, Ga., on May 3, 2009. He was 95. He practiced in Moultrie for almost 40 years. He is survived by three sons, one daughter, and 12 grandchildren.

**Henry Herbert Bryant III 42C 44M** of Parrish, Fla., on Dec. 14, 2008. He practiced at South Miami Hospital for more than 40 years.

**Forest Funk Jr. 41C 44M** of Atlanta on Dec. 6, 2008, of complications from diverticulitis. He was 88. After his residency, he returned to Atlanta in 1952

# Deaths | alumni news



Thomas DuPree Sr. 50M 59MR

Joseph Griner 50Ox 52C 56M 62MR

and began a private practice at Piedmont Hospital, and in 1960, he co-founded Peachtree Orthopedic Clinic. He performed the first total hip replacement surgery in Atlanta in 1969 and the first arthroscopic knee surgery in Atlanta in 1975. At age 63, he served as a physician for a U.S. climbing team on Mt. Everest. He is survived by his wife of 67 years, Florrie, and three daughters, including **Helen McSwain 82M 87MR**.

**Jacob Riley 44C 46M 52MR** of Winter Park, Fla., on Feb. 6, 2009. On March 16, 1946, he graduated from the School of Medicine in the morning, was commissioned a captain in the U.S. Army Medical Corps in the afternoon, and married Georgiana Jennings in the evening. After his discharge from the Army, he came back to Emory for a residency in obstetrics and gynecology. He opened his own practice in Winter Park in 1953. He was a charter physician of Winter Park Memorial Hospital and delivered its first baby in 1955. Besides his wife, he is survived by two sons, a daughter, and eight grandchildren.

**Stuart Sims 44C 46M 54MR** of Atlanta, on May 25, 2009. He was 87. He was a naval surgeon during WWII and then practiced as a general surgeon for 20 years. He served as the medical director at AT&T for 10 years and was a medical examiner for the Social Security Administration. He retired at 86. He is survived by his wife, Rose, and two children.

**Norman Goldstein 45C 47M** of Sarasota, Fla., on April 22, 2009. He served as a pediatrician in Sarasota for 24 years. When he retired in 1983, his retirement party drew several thousand people. He continued his subspecialty practice in developmental and behavioral pediatrics until 1994. He is survived by his wife, Rita, and three children.

**Arthur Moseley 46C 47M 50MR** of Boca Grande, Fla., on July 27, 2009. When he retired from his practice in 1987, he joined Holland America Line and Windstar Cruises as a ship physician. He is survived by his wife, Sara, their four children, five grandchildren, and one great grandchild.

**Marguerite Candler Ballard 43G 48M** of Monticello, Ga., on June 2, 2009. She was one of the first women to attend the School of Medicine and retired in 1985 as medical director of the U.S. Public Health Service. She was preceded in death by her husband, George, and is survived by 11 nieces and nephews.

**Byron Davis 49M 50MR** of St. Simons Island, Ga., on May 7, 2009. He was 87. He was a pathologist in Valdosta, Ga. He is survived by his wife, Margaret, his daughter, and son.

## 1950s

**Thomas DuPree Sr. 50M 59MR** of Swainsboro, Ga., on Feb. 17, 2009. He was 89. Before entering medical school, he served in WWII as a dive bomber pilot on the USS Wasp and the USS Lexington. He earned the Navy Cross, Presidential Unit Citation, and Air Medal with Gold Stars and was nominated for the Distinguished Flying Cross and the Purple Heart. He later worked as an ophthalmologist at Riverside Hospital in Bainbridge, Ga., and at the Riverside Clinic Hospital in Macon, Ga., from 1962 to 1985. He is survived by his wife, Jean, seven children, and 12 grandchildren.

**Shed Caffey Jr. 51M** of Memphis, Tenn., on May 9, 2009. He was 83. He was a pediatrician in Memphis for 30 years. He and his wife, Jane, supported the work of Baddour Center in Senatobia, Miss., for those with mental disabilities. In 1993, the center recognized their efforts by dedicating the Shed and Jane Caffey Clinic. In addition to his wife, he is survived by three children.

**Louis McDonough 46C 51M 54MR** of Atlanta on Feb. 20, 2009. He was a pediatrician for more than 30 years. After graduating from Emory, he headed over to the School of Medicine and told the dean he simply had to be a doctor. He was the physician for the children of Rev. Martin Luther King Jr. Mrs. King called him to come see one of the children on the night King was assassinated. McDonough is survived by his wife, Alice, (whom he met at Emory University

Hospital when her father was having a stroke), three sons, and two daughters.

**Bernice Waldo Moore 49C 52M 55MR** of Atlanta, on July 15, 2009. During his residency, he worked under noted cardiologist Bruce Logue. He later formed a private practice and was affiliated with Piedmont Hospital for 35 years. He also was on the founding board of directors of Wesley Woods. He is survived by his wife, Nancy, and a daughter.

**Virginia Malone 53M 83MR** of Roswell, Ga., on March 22, 2009. She worked as a nurse in Kentucky and then decided to go to medical school. She worked in internal medicine and then decided to do a residency in psychiatry. She practiced psychiatry up until three months before her death at age 84. She is survived by two children.

**Joseph Griner 50Ox 52C 56M 62MR** of Fitzgerald, Ga., on May 20, 2009. He was an obstetrician and gynecologist in Tallahassee, Fla., for 40 years. He is survived by four children and six grandchildren.

**Hugh Mathews 53C 57M** of Beach Haven, N.J., on April 29, 2008.

**Richard Noland 54C 58M 60MR** of Amherst, Mass., on June 25, 2009. He was 76. After his residency in internal medicine, he decided to pursue an interest in literature. He earned an MA from Columbia University and then realized that teaching was to be his life's work and returned to Columbia to earn a doctorate in literature. He taught at the University of Massachusetts at Amherst for 38 years and served as chair of the English department and assistant to the chancellor. He is survived by his wife, Barbara.

## 1960s

**James Averett 56C 60M** of Atlanta, on December 4, 2008, of cancer. He was an orthopedic surgeon for 32 years at Piedmont Hospital. He is survived by his daughter and son.

**Bryant Mauk 57C 60M 64MR** of San Antonio, on Dec. 1, 2008. He retired in 1994 after 30 years in the medical corps of the U.S. Air Force. He also earned a law degree from George Washington University and a master's in public health from University of Texas at San Antonio. He is survived by his wife, Helen, and two sons and two daughters.

**Jerry M. Robinson 59C 62M 63MR** of Deltona, Fla., on Dec. 25, 2008. He is survived by his wife, Rosemary, five daughters, and two sons.

**John Francis Payne 63M** of Thomasville, Ga., on May 4, 2009. He established the Thomasville Orthopaedic Clinic in 1971 and practiced there until his retirement in 2002. He is survived by his wife, Mary Ellen, two sons, and a daughter.

**Otto Johnson Jr. 59Ox 61C 65M** of Dublin, Ga., on July 19, 2009. In 1971 he joined Dublin Internal Medicine and retired from the practice in 2003. From 1967 to 1968 he served in the U.S. Army with the First Air Cavalry in Vietnam and was awarded a Purple Star, Army Commendation Medal, Bronze Star, National Defense Service Medal, Vietnam Service Medal, and Air Medal. He is survived by his wife, Susan, and a son. Another son preceded him in death.

**Charles Greer III 62C 66M 67MR 73MR** of Cordele, Ga., on March 2, 2009.

**William Wolff 62C 66M** of Columbus, Ga., on Aug. 15, 2009. He was an abdomi-

**Richard Noland 54C 58M 60MR**

**Jerry M. Robinson 59C 62M 63MR**

**Otto Johnson Jr. 59Ox 61C 65M**

**Charles Greer III 62C 66M 67MR 73MR**

# Deaths | alumni news

John Boys Smith

Malcolm Freeman 52C 55M 61MR

John Davidson 41Ox 43C 45M

James Glenn

nal surgeon and served as president of the Muscogee County Medical Society, delegate of the Medical Association of Georgia, and president as the Mayo Clinic Priestly Society. He was preceded in death by his wife, Nancy, and is survived by his daughter, two sons, and four grandchildren.

## 1970s

**Christopher Hames 74C 78M** of New York, on Jan. 27, 2009. He was 55. He practiced psychiatry in New York for 24 years.

## 1990s

**Adam Cohen 95C 99M** of Houston, on April 8, 2009. He was 34. He was a pediatrician in the Houston area. He is survived by his mother and sister.

## Residency Deaths

**John Boys Smith** (ophthalmology) of Seattle, Wash., on March 21, 2009. He is survived by his wife, Alicia, and two daughters.

**Charles Harmon Brown** (internal medicine) of San Mateo, Calif., on Nov. 11, 2008, of cancer. He was in the first class of board-certified specialists in sports medicine. He coached women's track and field teams from 1953 to 2008. He was named coach to 10 U.S. National teams and served as the U.S. teams' physician at several international events. He did some of the earliest work that dispelled the myth that women would be harmed from running more than 800 meters or lifting weights. He recently helped the Ladies Professional Gold Association develop its drug-testing policy. He is survived by his wife, Eula Love, his daughter, and son.

**John Duffy** (rehabilitation medicine) of Conyngham, Penn., on March 29, 2009. He is survived by his wife, Elizabeth, a daughter, and two sons.

**Gaston Freeman** (psychiatry) of Ridgeland, Miss., on March 4, 2009. He was 81. He joined the U.S. Navy at age 16 and remained in the Naval Reserve as a pilot, chaplain, and physician until he retired in 1987. He received a master's of divinity from Emory in 1954 and later a medical degree. He is survived by two sons and three daughters.

**Arthur Haebich** (thoracic surgery) of Glenview, Ill., on Jan. 30, 2009, of heart failure. He chaired thoracic and cardiovascular surgery for 33 years at North Side Hospital in Glenview and served as chief of its medical staff. He is survived by his wife, Patricia, and his son.

**Raymond Lupse** (gynecology/obstetrics) of Gastonia, N.C., on June 5, 2009. He was 64. He is survived by his wife, Judith, a daughter, and son.

**William McCoy III** (ophthalmology) of Knoxville, Tenn., on Nov. 14, 2008. He is survived by is wife, Melinda, and a son and a daughter.

**Gordon McFarland** (orthopedic surgery) of St. Tammany Parish, La., on Dec. 24, 2008. He was 75. He practiced at Ochsner Medical Center and specialized in bone pathology and reconstructive hand surgery. He served on the board of trustees of the Alton Ochsner Medical Foundation and on the board of the Ochsner Clinic. He is survived by his wife, Suzy, and two sons.

**Fernando Mendez Jr.** (cardiothoracic surgery) of Cincinnati on March 27, 2009. He is survived by his wife, Marilyn, two children, and three grandchildren.

**Elise Neeld** (radiology) of Nevis, Minn., on Dec. 5, 2007. She is survived by her son and mother.

**Charles Overbey Jr.** (psychiatry) of Kalamazoo,

**Bernard Holland Jr. 40C 43M**

Mich., on Dec. 11, 2008. He was 93. He worked for the Kalamazoo Psychiatric Hospital for 28 years and for Social Security Disability Determination Services for 19 years, in addition to maintaining a private practice. He is survived by his wife, Helen, and a son and daughter.

**Adolfo Ponce de Leon** (psychiatry) of Atlanta on July 15, 2008. He is survived by his wife, Sonia, three daughters, two sons, and 10 grandchildren.

**Miriam Smith** (psychiatry) of Decatur, Ga., on Oct. 29, 2008. She was 73.

**Brian Thomas Sutcliffe** (pediatrics) of Atlanta on May 8, 2009. He was 44. He finished his residency in 1994 and then worked in the emergency room at Southern Regional Medical Center.

**Herbert Valentine Jr.** (internal medicine) of Gainesville, Ga., on Jan. 6, 2009. He was 91. He is survived by his wife, Bonnelle, and three sons.

**Darius Vohman** (pathology) of Atlanta, on December 16, 2008, of pancreatic cancer. He was 80. He served as pathology chief at Piedmont Hospital. He is survived by his wife, Karen, two daughters, and a son.

**Herbert Wallace** (surgery) of Wynnewood, Penn., on Oct. 10, 2006.

**Gerald S. Williams** (obstetrics/gynecology) of Ormond Beach, Fla., on Jan. 7, 2008. He was 89.

## Faculty Deaths

**John Davidson 41Ox 43C 45M** of Atlanta, on Dec. 17, 2008, of complications from diabetes. He graduated from the School of Medicine's expedited war program and then served as area surgeon for Florence, Italy during WWII. After returning to Georgia, he received an opportunity to study with Charles Best, the co-discoverer of insulin, in Canada. Davidson and his wife moved to Canada so he could earn a doctorate in physiology in 1965 from the University of Toronto. In 1968, he moved to Atlanta and joined Emory as founding director of the diabetes unit at Grady Hospital. He authored three editions of *Diabetes Mellitus, a Problem-Oriented Approach.* He is survived by his wife, Bebe, two daughters, and two sons.

**Malcolm Freeman 52C 55M 61MR** of Statham, Ga., on June 20, 2009. He served as an associate professor of pediatrics and pathology and professor of obstetrics and gynecology. He retired as professor emeritus in January 1996, after six years of disability from multiple sclerosis.

**James Glenn** of Versailles, Ky., on June 3, 2009. He was 81. He served as dean of the School of Medicine from August 1980 until March 1983. During his tenure, the school's research grants quadrupled from $10 million to $40 million. He previously served as chief of urology at Duke University, where he vastly grew a small urology program. By the time he arrived at Emory, he had edited five urology textbooks and authored or collaborated on more than 100 published articles. After Emory, he served as president and CEO of the Mount Sinai Medical Center in New York and then worked in the United Kingdom from 1989 to 1998, before returning to his native Kentucky. A past president of the Societe Internationale d'Urologie, he received its highest honor in 2007. He was former governor of the American College of Surgeons, named an honorary fellow of the Royal College of Surgeons in England in 1987, and received a lifetime achievement award from the American Urological Association in 1994. He is survived by his wife, Gay, two sons, two daughters, and seven grandchildren.

**Bernard Holland Jr. 40C 43M** of Atlanta, on Dec. 4, 2008. He was 92. He retired in 1983 as professor emeritus of psychiatry. After working at Columbia University, he returned to Emory to chair the department. As department chair, he developed accredited training programs, opened an inpatient psychiatry service at Grady Hospital, and began a psychoanalytic training program. He is survived by his wife, Charlotte 79L, three sons, and one daughter.

**Andrew Muse Jr. 69MR** of Athens, Ga., on Feb. 11, 2009. He was 74. He served on the faculty from 1970 to 1972. In 1972, he joined a surgery practice in Athens and retired from it in 2005. He also served as chief of surgery at Athens Regional Medical Center and St. Mary's Hospital. He served in the Georgia National Guard from 1966 until 2002, when he retired as a brigadier general. He is survived by his wife, Helen, and three daughters.

# Class Notes | alumni news

## Good things come in threes

David Clapham 79G 81M

Herbert DuPont 65M

Robert Smith III 57M

**The Medical Alumni Association honored three physician-scientists during Medical Alumni Weekend this past September.**

**David Clapham 79G 81M** received the Arnall Patz Lifetime Achievement Award, named for the Emory graduate (42C 45M) who became one of the world's leading ophthalmologists.

Clapham discovered how calcium and certain proteins on cell surfaces affect ion transfer. Animal cells communicate primarily through the transfer of ions stimulated by electrical charges.

Clapham recently discovered a protein in the brain that affects anxiety and another protein that gives sperm an extra hard crack of the tail to penetrate the cell membrane and fertilize an egg.

His continuing work studying calcium-conducting ion channels at his lab at Harvard University has been applied in many fields, such as infertility, cardiology, and neurology. Cell communication through ion channels is an important component in developing new drugs that treat depression, cancer, hypertension, male infertility, and heart arrythmias.

**Herbert DuPont 65M** chose to spend his career battling diarrheal disease, one of the most elusive diseases on the planet. He received the Distinguished Medical Achievement Award.

As director of the Center for Infectious Diseases at the University of Texas at Houston and chief of internal medicine at St. Luke's Episcopal Hospital, DuPont aims to keep medicine one step ahead of drug-resistant diarrheal diseases. He has spent the past 40 years working in both the lab and the field, studying the epidemiology, immunology, genetic resistance, and clinical features of travelers' diarrhea.

Dupont's research has shown that the semi-synthetic antibiotic Rifaximin effectively treats travelers' diarrhea without creating drug resistance. He also was the principal investigator in a landmark study of a new vaccine for travelers' diarrhea published in *The Lancet* in 2008.

After graduating from Emory, DuPont became an epidemic intelligence officer for the CDC and then joined the University of Maryland. In 1973, he joined the University of Texas at Houston.

DuPont helped found the International Society of Travel Medicine and was its first president.

The Medical Alumni Association also presented **Robert Smith III 57M** its Award of Honor.

Smith spent most of his career as a vascular surgeon making sure his patients' hearts could receive and disperse their life's blood. Now Smith is semi-retired from Emory University, still working part-time.

Smith was an active member of the First Methodist Church of Atlanta throughout his career. Now he is a dedicated volunteer for the church's outreach program. A board member for the Georgia Prison Ministries Project, Smith coordinates a monthly children's program at a state prison in southeast Atlanta.

During his near 50-year career, Smith intertwined administrative roles with groundbreaking clinical work. He participated in Georgia's first organ transplant surgery (kidney) at Emory in 1966, soon after joining the faculty. He served as chief of the surgical service at the Atlanta VA Medical Center and chief of Emory Vascular Service. When he retired in 2006, he had served 11 years as medical director of Emory University Hospital.—Valerie Gregg

# Have a plan.

JEFF NUGENT and Elizabeth Webb met in the anatomy lab at Emory School of Medicine in 1964. It wasn't exactly a romantic setting, but love prevailed and they married. After completing residencies at Johns Hopkins Hospital, Jeff 68M 70MR became an orthopaedic surgeon and Elizabeth 68M 70MR a pediatric cardiologist.

Together for 38 years before Elizabeth passed away in 2005, the Nugents were as dedicated to philanthropy as they were to their patients. Among their many causes, they invested in medicine at Emory.

Now remarried, Jeff Nugent is continuing that generous tradition with his wife, Carol. They have made a bequest to support pediatric cardiology in Elizabeth's honor.

Learn how you can include the health sciences in your estate plans. Call 404.727.8875 or visit www.emory.edu/giftplanning.

**Plan to honor a loved one.**

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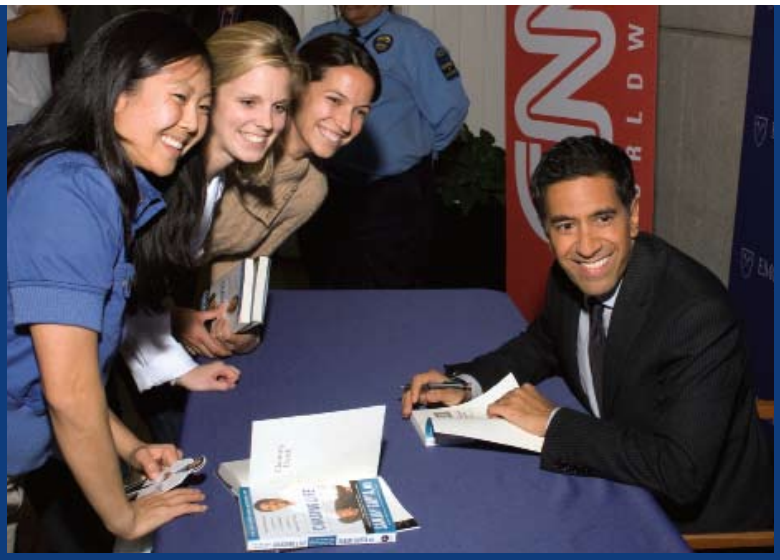

## Paging Dr. Gupta

**Sanjay Gupta, Emory neurosurgeon and CNN medical journalist, signed copies of his new book, *Cheating Death: The Miracles that are Saving Lives Against All Odds,* on campus in mid-November.**