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C-section spikes 16

WINTER 2011

# EMORY | health

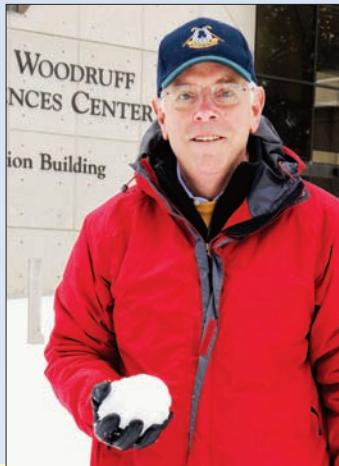
PATIENT CARE, RESEARCH, AND EDUCATION FROM  
THE **WOODRUFF HEALTH SCIENCES CENTER**



returning quality to life

FOR PATIENTS AND FAMILIES FACING CRITICAL ILLNESS

## FROM THE INTERIM EXECUTIVE VP



### Life-affirming care

One of the fundamental goals of our health care teams at the Woodruff Health Sciences Center (WHSC) is to prevent and ease suffering and to offer the best possible quality of life for patients and their families. This goal also applies to the relatively new specialty of palliative care, which focuses on patients' physical, psychological, spiritual, and social needs. Unlike hospice care, which is intended for patients in the last months of life, palliative care may be beneficial for patients at any stage of illness.

Emory's palliative care teams include doctors, advanced practice nurses, social workers, and chaplains, who work alongside nutritionists, pharmacists, and others to help patients with the practical burdens of illness.

They work closely with primary care physicians to control pain and relieve symptoms and side effects. They help provide emotional and spiritual support and counseling in making difficult medical decisions. They help patients navigate a complex health care system and can coordinate home care referrals and assist with identifying future care needs. And they focus their care not only on the patient but also on the patient's family and caregivers.

Palliative care affirms life by supporting the patient and family's goals for the future as well as their hopes for peace and dignity throughout the course of illness. In essence, palliative care is simply good patient care.

In this issue of *Emory Health*, I am happy to share an overview of our palliative care program with you as well as many other ongoing efforts that we are undertaking to improve health and affirm life. As a former high school teacher myself, I am particularly proud of Emory's outreach to Georgia's health and science high school teachers and students, also featured in this issue. To those teachers attending the Georgia Science Teachers Association meeting in February, I extend a special invitation to you to partner with us to help Emory spread the lessons of health to young people statewide.

I'd like to close my winter message by congratulating our fine editorial staff. We recently learned that *Emory Health* has received a 2010 Robert Fenley Writing Award from the Association of American Medical Colleges for our cover story on progesterone research, written by Sylvia Wrobel. From the Council for the Advancement and Support of Education, we received an Award of Excellence for special interest magazines and Special Merit Recognition for our slideshow on Emory Medishare's volunteer efforts in Haiti. Still, the best recognition of all comes when you, our readers, take the time to read our publication and learn about our efforts to promote health and well-being for our patients, faculty, staff, and students. For that, I thank you.

S. Wright Caughman

Please share your feedback at [evphafeedback@emory.edu](mailto:evphafeedback@emory.edu).

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PATIENT CARE, RESEARCH, AND EDUCATION FROM  
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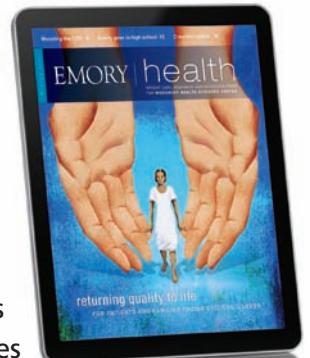
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**What do you think?** *Emory Health* welcomes your comments—pro or con—about topics and issues covered in this magazine. Please send comments, letters to the editor, address changes, and other correspondence to *Emory Health*, 1440 Clifton Road, 150M, Atlanta, GA 30322; email [rhonda.mullen@emory.edu](mailto:rhonda.mullen@emory.edu); or call 404-727-8166.



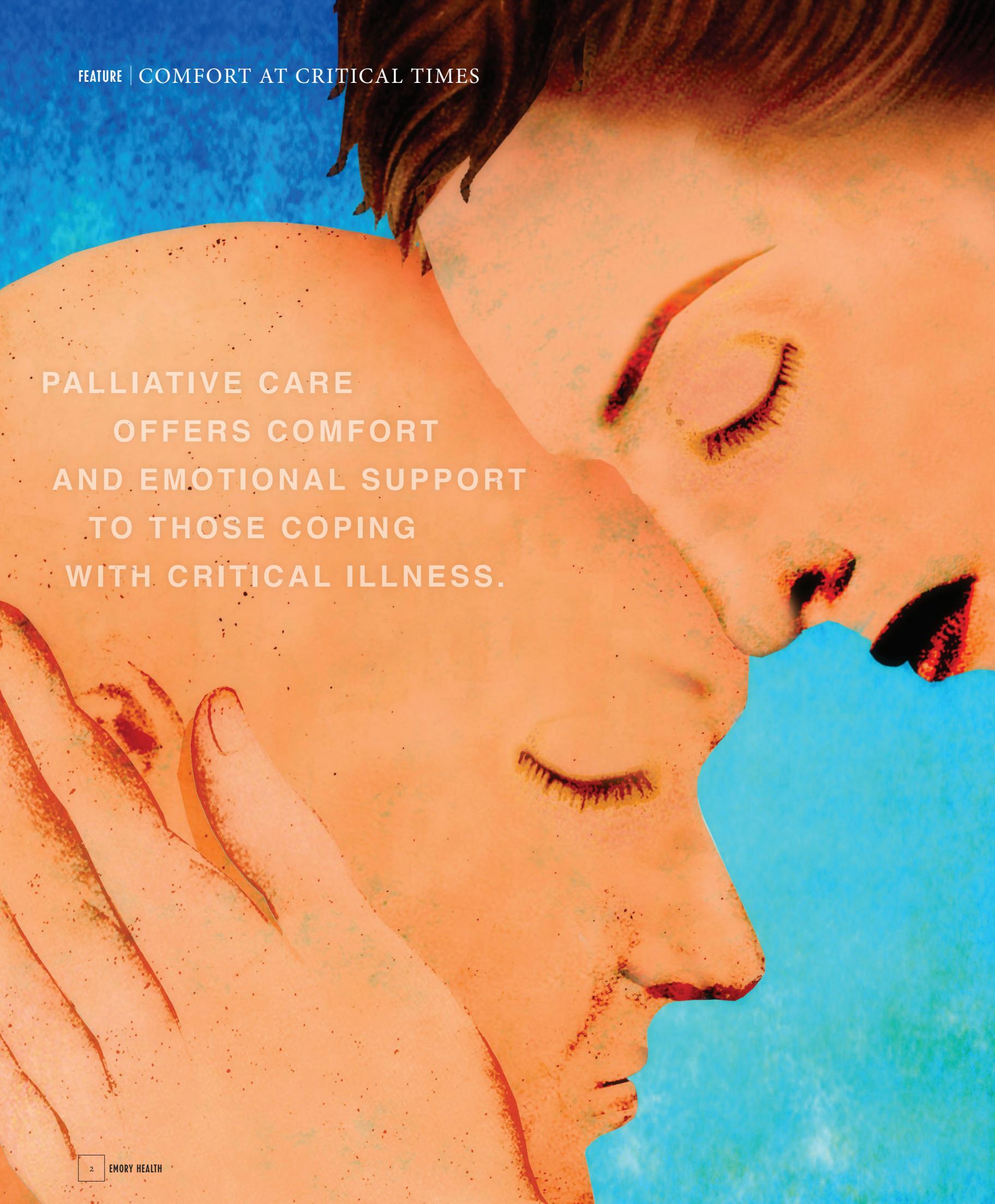
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FEATURE | COMFORT AT CRITICAL TIMES

PALLIATIVE CARE  
OFFERS COMFORT  
AND EMOTIONAL SUPPORT  
TO THOSE COPING  
WITH CRITICAL ILLNESS.

# returning quality to life

By MIKE KING • Illustrations by BRIAN STAUFFER

**S**HE IS 33 YEARS OLD, unmarried, estranged from her immediate family, and raising two small children by herself.

A few hours ago she found out she has stage IV, metastatic breast cancer.

The prognosis is not good—maybe a year, perhaps a little more, to live. Then again, targeted chemotherapy and other treatment alternatives for advanced stage cancer patients have improved remarkably in recent years, and it could be she will beat the odds.

From a clinician's standpoint, her treatment team needs to know what she wants them to do. How aggressive in combating the cancer does she want them to be?

But from the patient's point of view, the questions she faces are more profoundly personal and, to her, more important: Who will take care of me? Who will take care of my children? How sick am I going to be? How much pain should I expect? What happens if nothing works and the cancer spreads even faster?

## Getting help

**What is palliative care?**

**How will I benefit from palliative care?**

**When is the right time for this care?**

**How does it differ from hospice care?**

To answer these questions and more, visit <http://bit.ly/emorypalliative>.

In addition, the nonprofit group, Georgia Health Decisions, has created a planning guide—including the Georgia Advance Directive for Health Care—where the user can appoint someone to make his or her health care decisions and formally state what treatments he or she does or does not want to receive. The planning guide is available at Emory's hospitals or at [georgiahealthdecisions.org](http://georgiahealthdecisions.org).

In American medicine, doctors have compiled reams of data and effectiveness studies on the therapy options that might help her answer the clinicians' set of questions. But on the questions that matter most to her, American medicine can, at times, be woefully inadequate.

Thankfully, that appears to be changing.

Medical science is re-examining the important role that palliative care—pain management, emotional support, and other services not aimed at the underlying disease—can play in the practice of clinical medicine. Palliative care consults are becoming more routine for patients with advanced forms of disease where survival is often measured in months instead of years. And increasingly, patients and physicians alike are turning to palliative medicine as a vital part of an overall treatment plan to combat chronic, debilitating diseases that may not be immediately life threatening.

### Care that belies the "death panel" image

The combination of aggressive therapy and palliative care intuitively makes sense.

Patients who feel better, do better.

But for years—because many associated palliative care with “giving up” in the fight to beat cancer, heart disease, Alzheimer’s, and other killers—the common perception was that trying to control the patient’s pain and providing emotional support amounted to the first step toward hospice care. Discussion of these topics with some patients was deemed premature at best and inappropriate at worst. Even last year when physicians, economists, and ethicists raised these topics in the context of public policy—by suggesting during the health reform debate that Medicare routinely should pay for palliative care consults—some politicians rebuked them for favoring “death panels” for the elderly.

The reality is much different.

When Emory palliative care physician Sigy Jacob, who leads a palliative care team at Emory University Hospital (EUH) Midtown, met the young breast cancer patient, one of the first clinical steps she prescribed was simple—reconnecting the patient to her family.

“Her family is local, but she is hesitant to have them involved with her care,” she says.

“Patients and families struggle when loved ones are diagnosed with a life-threatening illness. We help them understand that they are not alone, aid them in managing symptoms, and assisting with psychosocial and spiritual challenges.”

Similarly, in the same week that Jacob was meeting the breast cancer patient, her interdisciplinary team was working with an 82-year-old heart failure patient to make sure the patient’s elderly sister was confident she could care for her at home. Palliative care often is about taking care of families as well as patients. “We meet patients where they are and walk the journey with them. That can include discussions about options for end-of-life care, if appropriate,” Jacob says.

EUH Midtown, Emory University Hospital, Grady Memorial Hospital, and the Atlanta V.A. Medical Center—all staffed by Emory physicians—are among a minority of hospitals nationwide that offer certified palliative care services. Additionally, Emory’s medical school was recently approved by the Accreditation Council for Graduate Medical Education to sponsor a one-year fellowship for residents in hospice and palliative medi-



**Emory's palliative care director Tammie Quest leads multidisciplinary teams that provide physical and emotional support for patients.**



**Emory Midtown physician Sigy Jacob says that palliative care is as much about taking care of families as patients.**



**Patient Dan Herbermann and wife Danya have turned to the palliative care team for help in managing the pain associated with Dan's head-and-neck cancer treatments. Here they meet with Emory oncologist Fadlo Khuri at the Winship Cancer Institute.**

cine. (There are two fellows enrolled this year.) Emory emergency medicine physician Tammie Quest, who also has certification as a hospice and palliative care specialist, is interim director of Emory's program.

The palliative team usually includes physicians, nurses, nurse practitioners, outpatient social workers, an outpatient psychiatrist, and a chaplain. The team collaborates with the oncologists, cardiovascular specialists, neurologists, and surgeons who treat the underlying causes of a patient's illness.

### Helping patients decide what they want out of care

Team members are careful not to put themselves in a position to seem as if they are recommending what medical decisions patients should make, Quest says.

But their role often involves bridging the gap between the emotional expectations of the patient and family and the very real, predictable realities of what medicine can and can't do. The palliative care team navigates daily through these turbulent streams by helping both physicians and families understand what the patient wants and how best to provide it.

Emory's hospitals are in the process of implementing a new standing policy. It would require physicians who are admitting patients likely to be in the ICU for a week or more to meet with patients and their families to discuss the patient's goals for care.

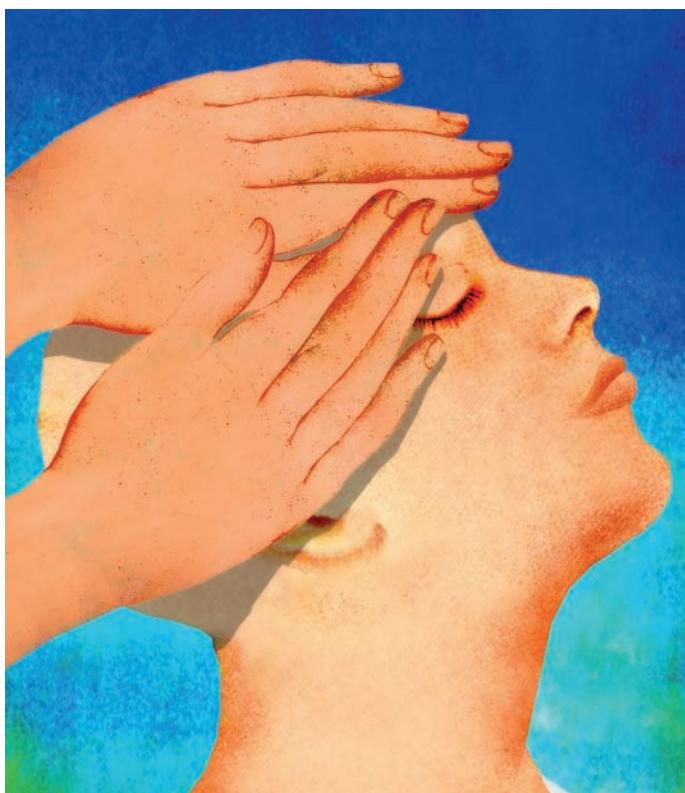
"What we can do is provide some clarification about what is possible and what is probable," says Emory critical care director Timothy Buchman. "We also can help illuminate the difference between hope and reality."

That's why it is so important to know what the patient wants to do if critical care isn't working, if it is causing extreme pain, or if there is an unanticipated medical complication that renders more treatment futile. Discussing such topics when the patient

enters the ICU is "a much better strategy than waiting until we are in the middle of a crisis," Buchman says.

Not every critically ill patient needs the intensive level of support the palliative care team provides. Ideally, many of the same techniques for pain management and emotional support that the palliative care teams use also can be administered by the medical staff treating the underlying cause of the patient's disease.

"We have millions of people who have



diabetes, but not all of them need to have their disease managed by an endocrinologist," says Quest. "Primary care physicians can follow diabetes patients, and surgeons and other specialists can provide palliative care to diabetics. We are there to help with some of the hardest cases."

### The difference between palliative and hospice care

Still, palliative care often has to be defined by what it is not. While many patients getting

pain management and emotional support are in advanced stages of their disease, they are not in hospice care. This difference is important.

The vast majority of hospice patients have stopped treatment for their underlying disease. In most cases doctors have certified that they are within six months of death. The care they get focuses entirely on making them comfortable during the last days of life and is often provided at home.

In contrast, palliative care patients with advanced stages of cancer often continue to receive chemotherapy, radiation, and even experimental treatments on an outpatient basis. To be sure, the long-term prognosis of many of these patients is bleak. But the aggressiveness with which they and their physicians fight their underlying disease is not subjugated to the palliative care they receive. The two forms of treatment are not mutually exclusive.

Moreover, by addressing the pain and emotional side effects during aggressive treatment, palliative care could actually prolong the lives of patients with advanced forms of cancer, according to increasing evidence.

### The potential for extending life

In fact, a recent study of more than 150 lung cancer patients published in the *New England Journal of Medicine* (August 2010) stunned many in the medical community.

The three-year, randomized study of patients at Massachusetts General Hospital with fast-growing lung cancers showed that those who received palliative care and cancer treatment not only were more well adjusted, able to get around better, and in less pain in their final stage of life, but also that they tended to live longer—about three months, on average—than those who received cancer treatment only.

If palliative care is started early as part of

an overall treatment plan, patients tend to have less depression and are happier, according to measurements for scale of pain, nausea, mobility, worry, and other problems.

Dan Herbermann, a Loganville, Ga., landscaper and the father of two sons, knows about that.

Last December he was diagnosed with stage IV head and neck cancer when an MRI showed a tumor on the trigeminal nerve, which spans the side of the face and jaw and connects to the brain stem. Any disruption of the neuropathways of the trigeminal nerve can be excruciatingly painful, and Herbermann has had his share of pain. He thought he could endure it until the massive radiation treatment he was prescribed—33 visits over seven weeks—dried out the mucous glands of his mouth. The cancer pain and side effects of the treatment convinced his psychiatrist to ask for help from palliative care.

At first, Herbermann was worried about becoming dependent on pain-killing drugs, but in conversations with Jacob he concluded he needed some form of pain management. On his first checkup after the treatment had stopped, doctors determined that the tumor had not progressed. But he knows he may need more radiation.

His wife, Danya, is certain that treating the pain made a difference in her husband's attitude and ability to keep fighting the cancer.

"He's in a very hard battle," she says. "He has good days and bad. But it would be so much harder if he didn't have the help he is getting from his psychiatrist, Dr. Jacob, and his oncologist."

Many oncologists, especially younger ones, recognize the benefits of palliative care that come in conjunction with routine treatment for their patients.

Ruth O'Regan, medical director of the Emory Breast Center at Emory's Winship Cancer Institute and a leading breast cancer

researcher, was not surprised that lung cancer patients who had received palliative care did better than those who got cancer treatment alone.

More and more of her patients want to discuss quality-of-life issues when being treated for advanced stages of the disease, she says. Oncologists are attuned to those needs, especially in how to broach the subject with patients in their 30s versus older patients in their 80s. The goals and expectations for patients can be distinctly different, O'Regan



says. And when oncologists find themselves caught between the patient and their families about how aggressively to treat the disease, they want the palliative care team's help.

"They are a wonderful resource for us, as well as the patient," she says.

### Transitioning to end-of-life care

Still, modern medicine has its limits. Despite advancements, cancer all too often outlasts chemotherapy and thwarts radiation. Weakening of the heart and lungs can

trigger a cascade of events that results in multiple organ failure. The relentlessness of Alzheimer's eventually takes out the strongest of patients.

Moving from palliative care to hospice care is a natural progression. Patients and their families who have been through the first often have a better understanding of what comes next. Hospitals also are learning. EUH and EUH Midtown have opened inpatient hospice units as part of the palliative care initiative.

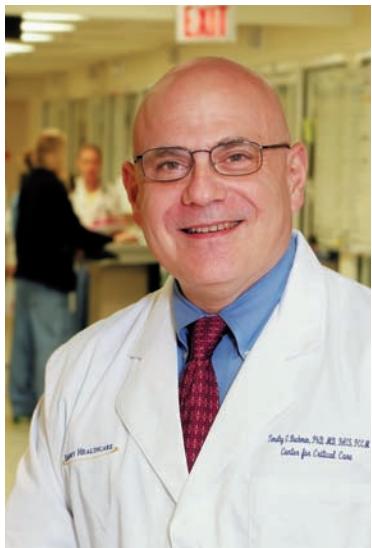
For several years, there has been a hospice care unit in Budd Terrace skilled nursing facility at Emory's Wesley Woods Center, which specializes in geriatric care. Chaplain Woody Spackman and his colleagues counsel patients and their families daily on end-of-life issues in the acute long-term care unit at Wesley Woods and other Emory hospitals.

When he worked on the oncology floors at EUH 25 years ago, palliative care and hospice care were rarely discussed. "Some topics just never came up," he says. "It was as if by raising them, we were acknowledging that we were giving up."

These days, however, "families are more in touch with quality-of-life issues. Some of them have talked at length about it, and they have reached some decisions," Spackman says. Still, many families need help. And Emory's corps of chaplains is happy to have the services of palliative care specialists to make available to patients and families.

### The VA leads the way

Perhaps the most dramatic example of how things have changed is at the Atlanta VA Medical Center, which has infused \$3 million in staffing to expand palliative care and hospice services for patients. Additionally, the hospital has recently opened a 12-bed unit that will serve both services. Patients will be treated in private rooms large enough



**Critical care director Tim Buchman** is working to implement a policy to discuss difficult decisions when a patient enters the ICU rather than waiting for a full-blown crisis.



**Chaplain Woody Spackman** helps patients and families broach the difficult subject of how they want to be treated and the care they want to receive at the end of life.

to have a comfortable living area (including chairs and a sleeper sofa) for their families. Nearby, family members can make use of a room to teleconference with family and loved ones who can't be there in person.

Emory's chief proponent of palliative care services, Tammie Quest, runs the VA unit. She supervises a staff that cares for 1,000 palliative care patients (about half of whom are treated in outpatient clinics). It's not surprising to her that the VA was among the first major medical systems to recognize the value of palliative care.

"In recent years, quality of care has been paramount for the VA," Quest says. "The care that we can provide is directly related to how patients measure their quality of care. You can't get more basic than helping them feel better and allowing them to decide what's best for them." **EH**

Your nurse or doctor can refer you to a palliative care specialist at Emory, or you may call Emory HealthConnection at 404-778-7777 for more information.

## Having the conversation

**The emergency department (ED) or ICU may be the worst place to hold "the conversation."** But without advanced planning, it sometimes becomes the only place.

Estimates are that one in 500 patients who come to the ED, as many as 200,000 a year, do not live to be discharged from its constantly bleeping monitors and bright lights. Another 500,000 patients die within days after being "tubed and moved"—to use the vernacular of the ED staff—from the emergency area to intensive care. Similarly, patients with end-stage chronic conditions like cancer and heart disease can wind up being admitted directly to the ICU in such a debilitated state that they can't speak for themselves.

Spouses, loved ones, and families who have never talked about what to do under such dire circumstances are often uncertain about the patient's wishes. They need help sorting through decisions about how aggressive they want doctors to be and when—or under what circumstances—treatment should be stopped.

"Talking about what we want to be treated like at the end of life can be a hard conversation, but it doesn't have to be,"

says Woody Spackman, executive director of Emory's Center for Pastoral Services. "It also can be a unifying moment for families, a chance to heal old wounds, and help each other understand what values we hold most dear. It makes many of the decisions that come later easier."

**Starting the discussion** Legal and ethical scholars point to a number of readily available documents (many of which can be downloaded from online websites) that individuals and families can use to specify their wishes. They range from advance directives to living wills to medical powers of attorney, also known as durable powers of attorney. While these documents differ slightly in form, many provide evidence of what the person wants in the event that he or she is unable to make decisions.

Still, filling out the document and stashing it away in a desk drawer or a safe deposit box doesn't go far enough, say experts, especially in families where there may be differences of opinion and strained personal relations over who is chosen to make decisions for the patient. It takes "the conversation."

Palliative and hospice care experts recommend holding a family meeting (at a holiday gathering, birthday, or wedding anniversary) to discuss end-of-life wishes. Often, the documents themselves prompt such discussions.

Families may know, for instance, that their loved one doesn't want to be intubated so that a machine is breathing for him, but they may be uncertain how he feels about the use of a feeding tube for nutrition even though there is no hope for recovery. That's what makes the conversation so difficult. But rather than avoid it, experts say, families should confront it explicitly—sharing their expectations as well as their fears about death and dying. **EH**



# CDCs for the WORLD

By SYLVIA WROBEL



PHOTOGRAPH BY BILLY HOWARD

**The director-general of the WHO nailed it. Without a strong public health infrastructure, how can any country respond to its biggest health challenges? IANPHI, based in Emory's Global Health Institute, is helping low-resource countries build the infrastructure they need.**

For more than a decade, beginning every December, clusters of people in some Bangladeshi villages suddenly grew sick with fever, pain, and breathing problems. Those symptoms were followed quickly by seizures and coma. Then, just as suddenly, every May, the illness disappeared, leaving in its wake a death rate of 70%.

## What is IANPHI?

The International Association of National Public Health Institutes links and strengthens the world's national public health institutes, boosting the capacity of low-resource countries to identify and prevent health risks and ultimately save lives.

## Members:

Directors from CDC-like organizations in 72 countries, from Afghanistan to Vietnam, representing more than 60% of the world's population.

## Brain Storm:

Jeffrey Koplan, former director of the CDC and now director of Emory's Global Health Institute, and Pekka Puska, his counterpart at Finland's National Institute for Health and Welfare (THL), envisioned IANPHI in 2001 after fielding ongoing questions from public health leaders in other countries about how to best track and respond to disease outbreaks.

## Founding Partners:

Bill and Melinda Gates Foundation, Rockefeller Foundation, and WHO. IANPHI's member institutes provide ongoing technical expertise and support for long-term development projects in 10 countries.

## Current Projects:

Short-term seed grants range from malaria control in Guinea-Bissau to analyzing extremely drug-resistant TB in Peru.

## Why is IANPHI Important?

Health risks are global. Weak disease detection and response systems in one country weaken the world.

## For more info:

[www.ianphi.org](http://www.ianphi.org)

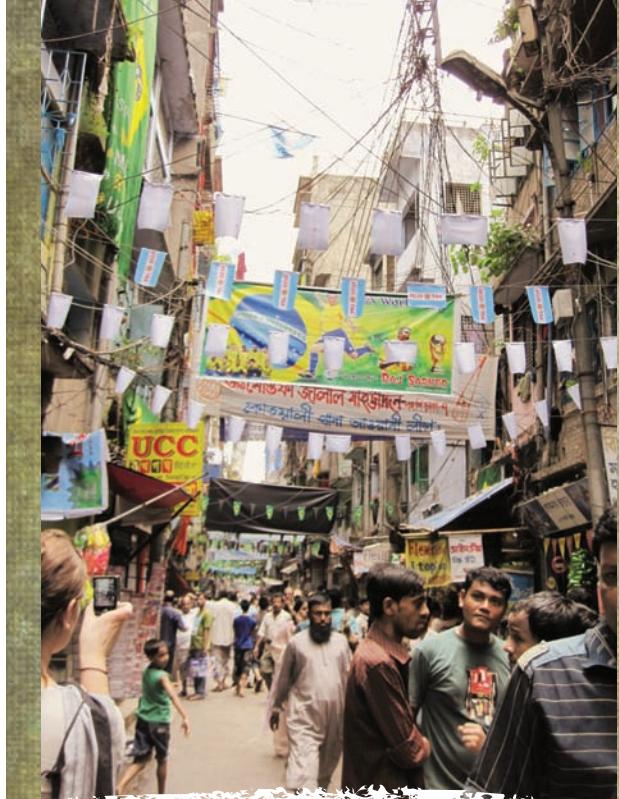
For some who survived, they had lasting brain damage. Villagers had their own theories about the mysterious attacks, but it took a developing public health structure in Bangladesh to solve the mystery.

With help from the CDC, scientists at the Institute of Epidemiology, Disease Control, and Research (IEDCR) in Bangladesh tracked the cause of the disease to Nipah, an emerging virus first seen in nearby Malaysia six years earlier. In Malaysia, pigs carried the virus, but in Bangladesh, it turned out to be bats.

December opens the season for date

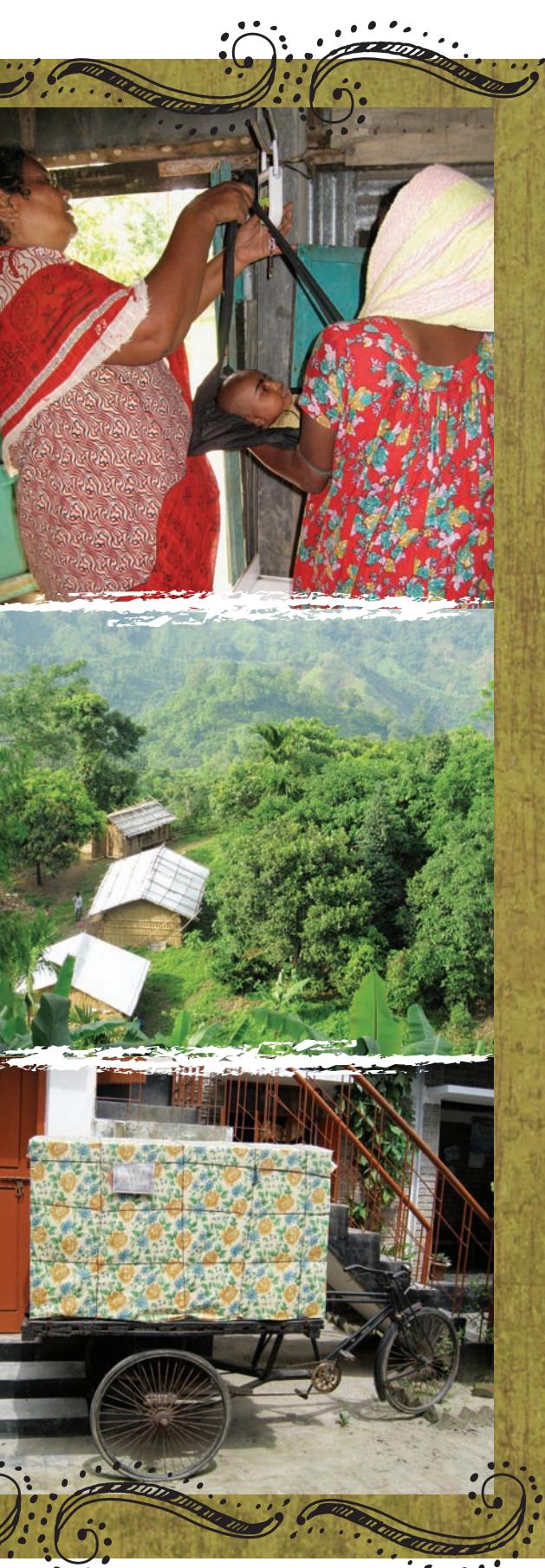
palm juice, a delicacy collected like maple syrup, shared with friends and family, and drunk raw. The juice was a common factor, but epidemiologists puzzled over how it could have become contaminated.

Working with the International Centre for Diarrhoeal Diseases Research in Bangladesh, the scientists found their answer by using infrared cameras to capture what happened at the date palm trees. The videos revealed that bats were licking the juice in the open collection buckets. The bats were infected with the Nipah virus, which causes no harm to the



In Bangladesh, IANPHI helped the country mount a better response to the Nipah virus, cholera, and puffer fish poisoning.





animals but which they excrete in saliva and urine.

A low-tech, low-cost solution proved simple and sustainable. Villagers learned to cover collection buckets with bamboo strips to keep bats away from the juice. They also learned how to take precautions against human-to-human transmission, which the scientists found to be responsible for several deaths. Nipah still appears every December, but the IEDCR is increasingly prepared to recognize and respond to it.

The Bangladesh institute got the jump start it needed for a stronger public health infrastructure from the International

case of H1N1 and join the global influenza surveillance network.

But the full power of Bangladesh's stronger public health structure became evident during a recent outbreak of cutaneous anthrax in people there. Its surveillance system quickly noted the outbreaks, and its laboratory was able to pinpoint the bacterium. With a diagnosis in hand, the government provided free and prompt antibiotic treatment, while teams of epidemiologists went door-to-door, tracking how people had been exposed.

The detective work paid off. Anthrax primarily affects cattle and other herbivorous

**"What we want to show the world now is that it is possible, even in very poor countries, even in the most adverse situations, to develop a good quality public health system."** —Amabelia Rodrigues

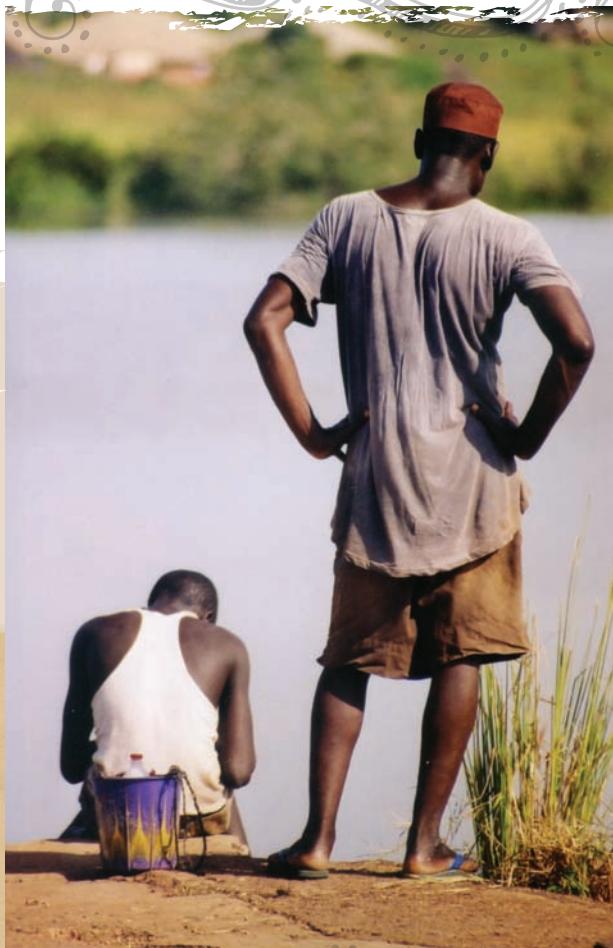
Association of National Public Health Institutes (IANPHI). Pronounced I-AN-fee, the organization has secretariats in Atlanta and Finland at Emory's Global Health Institute and Finland's National Institute for Health and Welfare. Its emphasis is on infrastructure: building and strengthening CDC-like institutes in low-resource countries, which can provide a local, systematic approach to disease surveillance, outbreak investigation and response, evidence-based policies and programs, and education and health promotion.

In Bangladesh, the model is working, with the IEDCR able to mount a better response to outbreaks of diseases ranging from Nipah and cholera to puffer fish poisoning. Disease surveillance systems there are now more capable of detecting emerging and reemerging infections. With a more sophisticated laboratory in-country, tests no longer have to be sent to the CDC but can be conducted overnight at home. A new BioSafety Level 3 lab, capable of dealing with serious air-borne infectious agents, enabled Bangladesh to quickly diagnose its first

animals, killing them quickly but not before they shed millions of bacteria. A dying cow's owner may be tempted to slaughter it for meat, hoping to partially compensate himself for the loss of income. In one village, the slaughter of a single sick cow affected 42 people, including many small children. In another, a dead cow was thrown into a riverbed instead of the recommended procedure of burying it six feet deep.

After scientists identified the source of infection, local officials wheeled rickshaws with loudspeakers through villages to broadcast the public health message: Protect against anthrax. Seek treatment for sick cows. Don't slaughter them. Dispose of dead animals properly. Public health leaders worked with village leaders and the media to turn up social pressure about handling sick or dead cattle, and the IEDCR updated its website everyday at noon.

Director Mahmudur Rahman and his team believe that the impact of their stronger public health infrastructure will only continue to grow, multiplying the momentum of public health success in Bangladesh. ■



**IANPHI helped Guinea-Bissau rebuild a public health laboratory and a shattered public health infrastructure destroyed in civil war.**



## Rising from the ashes

**T**HE PUBLIC HEALTH SITUATION WAS QUITE DIFFERENT IN GUINEA-BISSAU THAN IN BANGLADESH. One of the poorest countries in the world, with an average life expectancy of 40.5 years, this West African nation had nonetheless managed to build a small but functioning public health system by the late 1990s. Then, everything vanished.

Caught in a bitter civil war, the majority of health professionals fled the country, never to return. The national reference laboratory, the pride of the health system, took direct hits from two bombs. Basic public health measures, such as the vaccination of children, dropped precipitously, and Guinea-Bissau was left with no way to address continuing health problems like malaria, tuberculosis, and HIV/AIDS. After the war ended, the significance of not having a working public health structure was highlighted when a cholera outbreak swept the devastated country, killing hundreds and sickening thousands more. International agencies rushed in to put out the fire of epidemic, but no one on the ground was adequately prepared to identify the outbreak's cause, track its spread, or take measures to prevent its return.

Guinea-Bissau's lack of a national public health institute was

tailor-made for IANPHI's goals. With specialized help from two IANPHI members (Brazil's FIOCRUZ and Portugal's Institute of Hygiene and Tropical Medicine), the association jumped in to help Guinea-Bissau bring together its disparate programs into a centralized public health institute. With its own and leveraged funds, the country rebuilt and outfitted the destroyed headquarters and lab, adding new generators to restore electricity and water. A national school of public health was integrated into the reconfigured institute and additional programs to train public health staff, nurses, midwives, and lab technicians were added to replace those who had left during the war. A new countrywide surveillance program, incorporating laptops and cell phones, has since shortened response time to cholera and other outbreaks from weeks to days.

Rebuilding Guinea-Bissau's shattered public health infrastructure would not have been possible without IANPHI, says Amabelia Rodrigues, president of the country's new National Institute of Public Health. "What we want to show the world now is that it is possible, even in very poor countries, even in the most adverse situations, to develop a good quality public health system." ■

# Emory goes to high school

Emory is sharing the expertise of a national research university with Georgia high school teachers and students.

## MASTERING PROBLEM-BASED LEARNING

### Real-world science

A teacher draws a case study at random from the online list. She reads about elbow injuries, and five minutes later, she is offering ideas of how to make that case study relevant to high school science students. She proposes to connect the information to a prominent athlete's injury, say a recent injury by Queen Latifah.

The Atlanta area high school teachers are attending a summer workshop at the Emory Center for Science Education. In addition to discovering the latest research and resources for science students, they are learning to integrate problem-based learning into their classrooms.

Today they are exploring a database of cases that the center has designed to engage students in exploring the science behind real-world problems. These lessons address a variety of objectives across the sciences and mathematics. And educators can search the collection to find cases appropriate to the

grade levels, subjects, and topics of interest for their students in grades K-12.

The center's goal is to enhance science teaching and student experiences at the K-12, undergraduate, and graduate levels. In addition to undergraduate research, mentoring, and future faculty development initiatives, the center offers a range of programs for K-12 teachers and students throughout the year. "Our outreach mission is to help Georgia teachers get their students more excited about learning science and pursuing college and science careers," says Assistant Director Jordan Rose. "At the same time, we want to highlight Emory research and engage Emory students and faculty in improving science education for all." —Rhonda Mullen



**WEB CONNECTION** For more information on the programs and opportunities offered by the Emory College Center for Science Education, visit [cse.emory.edu](http://cse.emory.edu).



## NOT YOUR PARENTS' CURRICULUM

## *HPV uncensored*

**Lisa Flowers' lesson for students at the New Schools at Carver starts up close and personal.** The Emory gynecologist is projecting pictures of a cancer lesion on the cervix, followed by another picture of the anal canal infected with genital warts. She already has the room's attention when she asks, "Do you want these warts on your penis?"

Flowers will launch her full curriculum, "HPV Uncensored," at two Atlanta schools, Grady High School and the New Schools at Carver this spring. The course, offered once a week over 14 weeks, drives home the point that the human papilloma virus (HPV), a sexually transmitted disease, can cause cervical cancer. And just as important, it is preventable.

"Often kids don't relate to cancer because they think it is an old person's disease," says Flowers, "but they need to know that cervical cancer can affect women as young as 28."

Parents were on board with the program well before Flowers ever entered the Carver classroom. In fact, she wants to reach and educate parents as much as

their students. Along with the classroom teacher, Candace Henry, and several Emory medical students, she held an open house for parents to explain what they would cover in the classes and why. "We get the parents on board so they don't think we're trying to get their kids to have sex," Flowers says. "Sometimes, there is a fear that if we talk about sex, that will encourage kids to have sex. That simply is not true. Information prevents disease. I believe in the power of information."

Why does Flowers believe that this curriculum belongs in the high schools? Many kids initiate sexual activity as early as 12, she says, and she wants to spread the power of information while there is still time. "We could offer the course in college, but by then, we've really missed the boat," says Flowers.

The curriculum is hands-on. With help from Emory medical students, Flowers presents real-life case studies, leads games to reinforce the information, leads role play exercises to involve the teens, and assesses knowledge.

health practices, and behavioral actions related to sexually transmitted infections (STIs). "We make them think of the risk factors of a STI. We make a point of making it real."

At the program's end, the high schoolers have learned to call body parts by their correct names rather than slang terms, they've explored models of bodies, and they've learned that HPV causes cancer and that they can prevent it. For their final assignment, they make a group presentation to their community and parents, sharing the knowledge of what they've learned about STIs and HPV with others.

This winter and spring, Flowers will work with students at Emory's Rollins School of Public Health to measure the effectiveness of the curriculum and refine it based on the results. —RM

**WEB CONNECTION** To see a video of Flowers discussing the HPV vaccine, visit <http://bit.ly/lisaflowers>.

## INTRO TO HANDS-ON RESEARCH

## Lab lessons

**Casey Woodward first discovered “the wonder” of the laboratory during a summer research program at Emory’s Winship Cancer Institute.**

Woodward is one of 70 local high school juniors who have participated in the seven-week program, started by local high school teacher Andrea Allio 10 years ago. In fact, Woodward returned to Winship each summer during her undergraduate years to work with Emory oncologist Mary Jo Lechowicz, her mentor and the program’s current organizer.

“My family didn’t have much of a medical background, and getting to work as part of the medical community was really valuable,” says Woodward, currently a medical student at the University of Pennsylvania. “It helped me understand how much we know and how much we don’t.”

The program’s faculty consider the students as full members of the lab team. They engage in hands-on



research, take field trips to various departments throughout Winship and to patient simulation labs in Emory’s medical school, and become grounded in published articles on cancer biology. Currently, organizers are planning opportunities for high school teachers to share a role in the program.

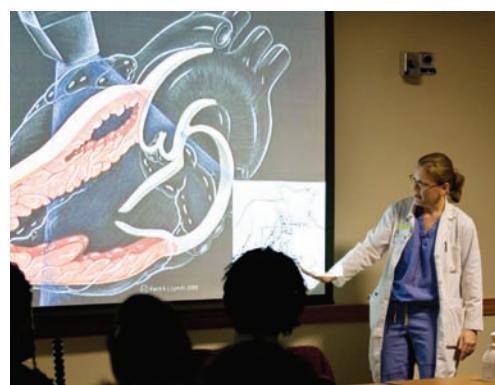
Brahma Natarajan, now a senior at McIntosh High School in Peachtree City, worked in Winship biochemist Anita

Corbett’s lab last summer, studying the yeast cousin of a protein thought to be involved in human breast cancer. Two graduate students in the lab taught her how to run gels, perform Western blots, and create mutations in proteins.

“Now that I have experienced how a lab works, I have gotten excited about continuing research in college,” says Natarajan. “I can’t wait!” —Quinn Eastman

## STIMULATING SCIENCE INTEREST EARLY

## Building a science pipeline



**The high school seniors gathered in the cardiology unit at Grady Memorial Hospital got a close-up, hands-on lesson about their own hearts one afternoon this past fall.** Led by Emory cardiologist and Grady cardiology chief Allen Dollar, a group of sonographers showed how echocardiography worked using several of the students as patients. “So, is this the same as ultrasound for a baby?” asked one student.

The class is part of the Pipeline program, started four years ago by two Emory medical students, Sam Funt and Zwade Marshall, at South Atlanta School of Health and Medical Sciences.

School officials credit Pipeline with stimulating interest in health science careers at South Atlanta as well as bolstering attendance and academic performance.

Beginning with a single class, the program has expanded to include classes for sophomores, juniors, and seniors. Each grade level has access to a distinct curriculum with a classroom component, one-on-one mentoring by Emory undergraduates, and hands-on demonstrations. Sophomores explore infectious diseases and HIV/AIDS. Juniors study neuroscience. And seniors—who get help with college application coaching—focus on cardiology and commu-

## Fulfilling work

**Before Zina Jenkins started her job at Emory University Hospital Midtown, IV pumps were always disappearing.** Then Jenkins (below) entered the picture, tasked with rounding up the pumps, cleaning and testing them, then delivering them where they were needed. She became so adept at her job—and saved the hospital so much money—that Emory duplicated the job at Emory University Hospital.

Jenkins is one of more than 40 young people with developmental disabilities working at Emory Healthcare. Trained through Project Search, they work between 20 and 30 hours a week on jobs from stocking supply carts to compiling billing records. They are regular employees, earning regular wages.

A collaboration between Emory, state agencies in Georgia, and the Roswell employment agency Briggs & Associates, Project Search targets high school seniors for one-on-one job training and coaching. As a sign of its success, the starting location for the program, Emory University Hospital Midtown, received the "Freedom to Compete" award in 2007 from the Equal Employment Opportunity Commission.

The program is a break from traditional approaches to employ-

ment for people with developmental disabilities. It identifies clinical and clerical support staff positions and coaches the fit between the employee and the job, says Briggs Region Director Emily Myers. "Once our individuals are hired, we don't disappear. We do whatever it takes to keep them working." That includes helping the employee with logistics and commuting challenges too.

Wesley Woods Center COO Al Blackwelder says that Project Search provides focused, energetic employees to do everyday tasks, freeing up health care staff to focus on patient care.

Anne McKinnon, daughter of Emory vascular surgeon Bill McKinnon, was the first person hired by Project Search. An employee in patient accounts, she is known for being an avid Braves fan and has become a regular performer at Emory

Midtown's annual talent show with her rendition of "Take me out to the ball game."

Another Search employee, Zelyna Cano, works in materials management, where she processes orders, handles bar codes, and makes deliveries. "I get to move around," Cano says. "I don't sit in one place... and I like seeing the babies." —QE



QUINN EASTMAN

nity outreach, culminating in a health fair that they organize at their school.

Pipeline participant Alexis Height, a junior, likes the interactive nature of the program. "I think we learn more from each other," she says.

Edward Anderson, a teacher who coordinates the program at South Atlanta High, reports an increase in the confidence and level of excitement among students about science. "We see more leadership, not just in class but in the whole building," he says. "Students are picking up the torch and running with it. I believe they will be future leaders and have a great impact."

Just how much impact the program is having will be verified soon by students at Emory's Rollins School of Public Health. They are in the process of quantifying the effect of Pipeline on attendance, grades, and test scores.

The first group to benefit from all three years in the Pipeline program has graduated recently, with all participants going on to enroll in a college or university. Several participants are studying in Emory's Preparatory Research and Education Program (PREP) and Research Internships in Science and Engineering (RISE) program, and at least one South Atlanta student

was awarded a scholarship to Emory. Another Pipeline alumna, Alyssia Clore, earned a Gates Millennium scholarship, which is enabling her to attend Spelman College.

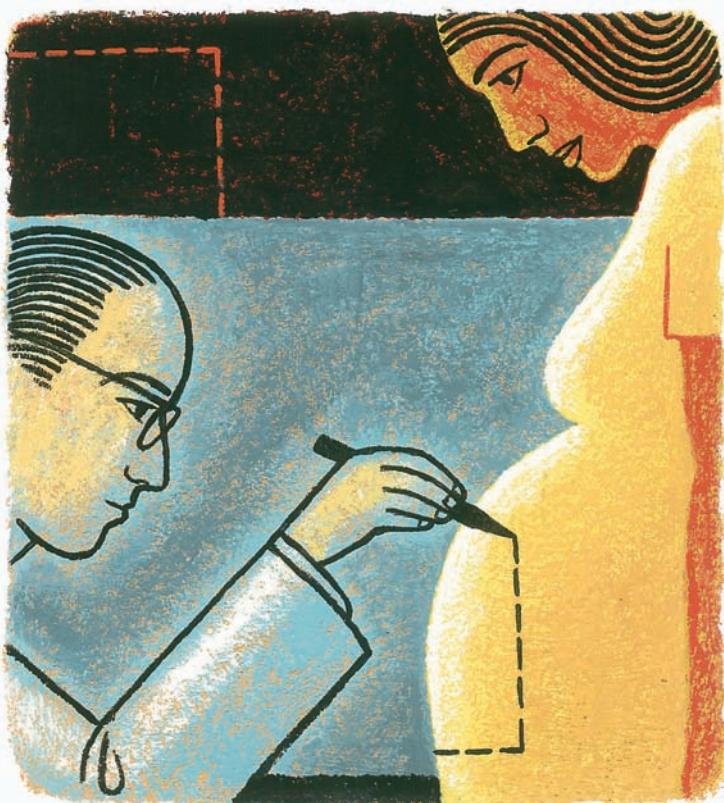
"When you see kids who are the first in their families to go to college, or that didn't think they were smart enough to go, those are the eye-openers that make this program worthwhile for me," Anderson says. —QE

**WEB CONNECTION** To see a video about Project Pipeline, visit <http://bit.ly/emorypipeline>.

# High C's

The C-section rate has spiked. An Emory neonatologist ponders why.

By ROBIN TRICOLES



While researchers and physicians are learning more and more about the benefits of labor and full-term pregnancies, C-sections at the same time are on the rise.

"In the 1970s, the C-section rate in the United States was only 5%, and now it's 31%," says Emory neonatologist Lucky Jain. The rise has been so steep over such a short time that researchers are just now beginning to get a glimpse of the long-term effects of bypassing vaginal delivery and labor. What they are finding is that skipping labor can have undesirable consequences, says Jain.

It's important that mothers and their obstetricians carefully weigh the benefits

of a vaginal delivery versus a C-section. A C-section may be indicated if a baby is in a breech position, if the mother's hips are narrow and the baby is large, or if the mother has a high risk of complications with vaginal delivery.

But there is a clear increase in the number of C-sections performed even in low-risk situations. Why? The reasons are numerous.

## Rising interest rates

Today, physicians monitor mothers and their babies more closely than ever, leading to the detection of more subtle abnormalities and follow-up testing. Far too often, these tests

Word has it that Julius Caesar was delivered by C-section; hence, the name of the procedure. But some say this can't be so because Caesar's mother, Aurelia, lived to see her son become a military leader and politician. Back then, Caesarian sections, or C-sections, were performed to save the baby only when the mother was dead or dying.

But if in fact Caesar had been delivered via C-section, he and his mother would have missed out on a profound and important event—labor. Labor triggers a chemical and hormonal cascade that can mean the difference between a healthy baby and a sickly one.

elicit false positive results, which may influence doctors to intervene with a C-section, says Jain.

Women also are starting families later in life. When it comes to vaginal delivery, older mothers are considered to have a higher risk for complications than their younger counterparts. For example, a woman over 40 is twice as likely to have a C-section than a woman younger than 30, according to Jain. And once a woman has had a C-section, her next deliveries will likely be Caesarian too. "Vaginal birth after a Caesarian has gone down because there's a rare occurrence of uterine rupture," Jain says. "That is, the

scar from the previous delivery can rupture. Although rare, a rupture can be catastrophic, risking both mother and baby."

Artificial reproductive technology has led to more twin and triplet pregnancies, which have a much higher rate than single pregnancies of C-section and early delivery.

Likewise, the rise of maternal obesity and maternal diabetes is driving up the number of C-sections because of the increased risks during labor and delivery.

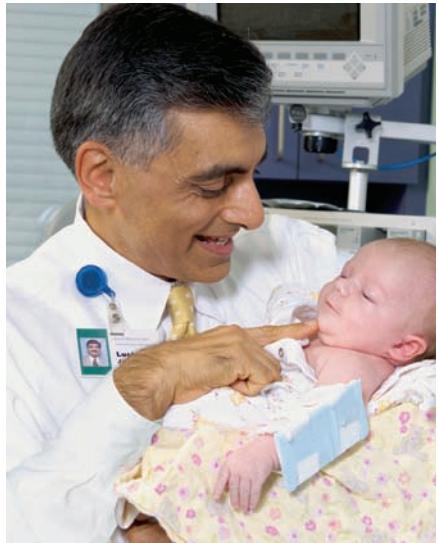
Finally, whether to have a C-section or not also can come down to the mother's preference—depending on her lifestyle, energy level, and fitness. Some women choose C-sections because they believe the procedure may reduce the chance of future urinary incontinence or sexual dysfunction.

Money and legal considerations also come into play. The current medical payment system encourages C-sections

because they are a quick, controlled method of delivery. "The obstetrician can do a C-section under very controlled circumstances in less than half an hour, while vaginal delivery can consume much more of the obstetrician's time," says Jain.

C-sections also decrease the likelihood of medical malpractice lawsuits. Obstetricians as a group are especially vulnerable to legal action. If a baby has health problems after

a delivery, the obstetrician is often held responsible, but if the mother asks or consents to a C-section, the physician's level of responsibility shifts. But so does the genuine due date.



**Jain's research focuses on how newborns' lungs clear fluid. In collaboration with Emory physiologist Douglas Eaton, he works on a small molecule in the lung called ENaC, or epithelium sodium channel molecule. "This molecule sits in the lungs and helps absorb sodium to help clear fluid from the lungs," Jain says. "What triggers the fluid absorption is an enormous release of steroids during labor. So in elective C-sections we're contemplating a trial in which we give the mother a shot of steroids to mimic what would have happened in spontaneous labor to help the baby's lungs clear out fluid.**

**"We may not be able to solve all the problems, but at least we can begin to take care of some of them."**

a safe landing," says Jain. "The 'landing gear' includes a sufficient maturity of the lungs to be able to transition to air breathing and to rapidly clear lung fluid as well as taking over the many functions that the mother's body had regulated for the baby."

While the lungs are full of fluid at birth, full-term babies can clear it rapidly while early-term babies often cannot. "Labor and delivery are part of a transient burst of activ-

ity of chemicals and hormones that prepares the baby for newborn transition," says Jain.

One of those chemical cascades involves the hormone oxytocin. Released by the mother, oxytocin helps regulate cervical dilation and uterine contractions during labor. The hormone also paves the way for breastfeeding and pair bonding. For this reason, mothers who have had a C-section may have difficulty in initiating breastfeeding.

And it's not just the mother who releases hormones. The fetus does too. Just around the time of spontaneous labor or slightly before, the fetus releases corticosteroids, a class of steroids crucial to fetal development—especially the lungs. In fact, the fetus continues to release corticosteroids throughout labor and even into early birth.

"From a pediatrician's standpoint, the most important thing for parents to remember is that one out of 10 Caesarian babies get admitted to the ICU," says Jain. "Most of them come into the ICU with an inability to transition to air breathing. They often start breathing fast because the lung fluid has not been cleared."

Additionally, catecholamines, the fight-or-flight hormones, rise to astronomical levels during labor, says Jain. Like corticosteroids, they too play an essential role in maturation of the fetus.

Researchers are just now beginning to look at the long-term consequences of elective C-sections. There is growing evidence that asthma, celiac disease, and neurologic difficulties may be linked to foregoing labor and vaginal delivery. That's why, says Jain, parents must clearly understand and carefully consider the risks and benefits of a C-section before making a decision to choose one. Because the decision of whether to have a vaginal birth or C-section depends on so many variables, he believes the doctor is the best judge. ■

**WEB CONNECTION** To hear a podcast about implications for the increase in C-sections, visit <http://bit.ly/csections>.

## A Cancer Fix

NEAR THE END OF 1999, HAMILTON JORDAN, FORMER CHIEF OF STAFF FOR PRESIDENT JIMMY CARTER, AND MICHAEL JOHNS, THEN HEAD OF THE WOODRUFF HEALTH SCIENCES CENTER, WERE DISCUSSING THE RECENT LANDMARK TOBACCO SETTLEMENT AT A HOLIDAY PARTY. The settlement called for the tobacco industry to cover states' expenses for the treatment of tobacco-related illnesses, and the decision meant that millions of dollars would soon flow into government coffers.

Jordan suggested that Georgia's share of the settlement should be used to fight diseases caused by cigarettes, and Johns agreed. They both believed that Georgia's cancer infrastructure was in dire need of support. This casual conversation sparked the serious discussion and action needed to create a coalition that would support the recruitment of outstanding cancer physicians and researchers from throughout the country.

Now, more than 10 years later, Georgia's cancer-fighting infrastructure is significantly improved thanks in large part to the Georgia Cancer Coalition (GCC), the organization borne from that conversation. Launched in 2001, the nonprofit coalition's goal is to reduce the number of cancer-related deaths in Georgia and make the state a national leader in cancer control.

"Our customers are the 9.8 million people of Georgia," says GCC's president and CEO William Todd. "Every year, 40,000 Georgians will hear those terrible words, 'I'm sorry but you have cancer.' And 16,000 will die. The coalition and its partners are working hard to impact those statistics. We've made significant investments designed to move Georgia to the top ranks of cancer care."

### Investing in Georgia

One of those investments involves recruiting top national and international researchers through the Distinguished Cancer Clinician and Scientists program. Since 2000, the GCC has brought nearly 150 cancer researchers and clinicians to Georgia's universities and

hospitals, which match the investment.

At Emory's Winship Cancer Institute, GCC Distinguished Cancer Scholar Fadlo Khuri is one of the world's leading authorities on lung cancer. Leading hematology and medical oncology, he has helped recruit nearly 90 physicians and researchers to Emory and bring millions of dollars in federal and foundation research funding to Winship and Georgia.



**I think of our customers as the 9.8 million people of Georgia. Georgia will experience 40,000 new cases of cancer this year. We're working hard to impact those statistics.** —Bill Todd

GCC Distinguished Scholars Ruth O'Regan and Sheryl Gabram are breast cancer experts who work together to address patients' access to care. Their research focuses on triple negative breast cancer, an aggressive disease that is resistant to targeted therapies and disproportionately affects African American women.

Also in the coalition's sights is working with Winship to achieve comprehensive cancer center designation from the National Cancer Institute (NCI). Already Winship is the only NCI-designated facility in Georgia. Comprehensive status would take

it to another level, demonstrating a strong research foundation with a wide spectrum of prevention, care, education, and information.

"With this designation, Georgia corrected the single greatest infrastructure defect in cancer control in our state," says Todd. "NCI designation makes the latest clinical trials and breakthrough treatments available at Winship and throughout the state through its collaborative relationships."

"GCC's vision and support has enabled Winship to execute innovative research and foster true collaborations with oncologists throughout Georgia," says Winship's executive director and GCC distinguished scholar Walter Curran.

For example, the Emory Prevention Research Center and the Southwest Georgia Cancer Coalition are collaborating to make rural home and neighborhood environments more supportive of cancer prevention behaviors. And the Georgia Center for Oncology Research and Education and Emory are conducting statewide clinical trials in collaboration with community-based oncology practices.

### Return on investment

"Our seed grants give a six-to-one return on the GCC's investment," says Todd. "We put \$1 into a seed grant and \$6 comes back, from the NCI and other national and private foundations." Although private support plays an important role in the researchers' funding, the majority of support comes from the state and federal government, primarily via the NCI.

Emory researcher Daqing Wu, for example, leveraged a \$50,000 seed grant from the GCC into a \$720,000 grant from the American Cancer Society to develop novel targeted therapy for bone metastasis in prostate cancer. Breast cancer researcher Hyunsuk Shim's GCC seed grant likewise led a research study with NIH and NCI to develop a drug treatment. Jin-Tang Dong also grew initial research on prostate cancer into a \$1.3

## Cancer Survivorship All Grown Up

million study with the NIH and NCI. So far, total funding from GCC to Winship has totaled \$66.3 million.

Although Todd focuses on the coalition's strategic goals, every day he makes a connection with an individual case—be it a relative, a business associate, or friend like Jordan, who fought six cancers for two



GCC distinguished scholar Ruth O'Regan directs Winship's breast cancer translational research program.

decades. After he died, Jordan's publisher donated copies of his book, *No such thing as a bad day*, to the coalition.

"We provide free books to cancer survivors throughout the state," says Todd. "It's gratifying to know that our founder's words continue to inspire newly diagnosed patients. Hamilton would be happy to know that the lessons he learned are still helping others cope through their cancer journey."

—Robin Tricoles

**WEB CONNECTION** To learn more about the Georgia Cancer Coalition's collaborations with Emory, visit [georgiacancer.org](http://georgiacancer.org).



AN ADULT PATIENT WALKS INTO A DOCTOR'S OFFICE AND TELLS A PHYSICIAN ABOUT BEATING CANCER AS A KID SOME 10, 20, EVEN 30 YEARS BEFORE. "OK, what does that mean to me?" the doctor says, unaware of new research showing that pediatric cancer survivors are often at a greater risk for breast cancer, weakening of heart muscle, or a second, new primary cancer. The patient, also unaware, doesn't know enough to ask for the right preventive tests.

This scenario haunts Emory epidemiologist Ann Mertens and is the motivating factor behind her new project, SurvivorLink. An online database for pediatric cancer survivors and their families, SurvivorLink allows users to store medical information, learn about recommended screenings as they age, and share this and the latest evidence-based findings with their medical doctors. The project—funded by a three-year grant of more than \$1 million from the federal Agency for Healthcare and Research Quality—is unlike any other existing database, according to Mertens. "Doctors can actually look at this and say, 'OK this was the diagnosis, this is the treatment they had, and this is the recommended screening as we move forward.' In essence, we're putting an infrastructure in place so we can educate the

primary care physician as well."

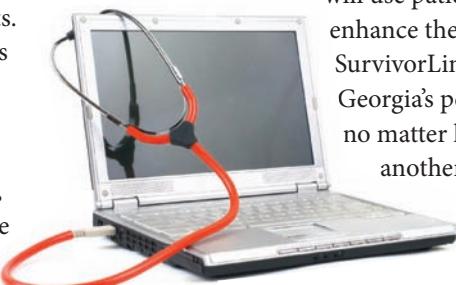
SurvivorLink promises to bridge the gap of information that exists between researchers and practitioners, patients and physicians. It can even be a much-needed resource for an adult who may have a hazy memory of a childhood radiation treatment. "For example, a 15-year-old might not necessarily be interested in possible infertility because of their cancer treatment," Mertens says, "but when you're 22 or 24, or maybe thinking about being married, all of a sudden that becomes important."

The SurvivorLink pilot began in September with recruitment of 500 pediatric cancer survivors in Georgia under the age of 21. Over the next six months, Mertens will track their use of SurvivorLink to see if they are learning more about their cancer treatment and long-term health as well as to solicit feedback from their doctors.

At the end of the pilot phase, Mertens will use patient and physician input to enhance the website before making SurvivorLink available to all of Georgia's pediatric cancer survivors—no matter how old. After all, there's another scenario Mertens would like to make a reality.

"When the patient and parent come in the door and the parent says, 'My son needs an echocardiogram,' the physician can say 'Oh, you're right. You know what, I just looked on this website, and it explains to me why he needs it, how often he needs it, and the treatment he had that would cause me to look for this.'"

This way, Mertens says, cancer survivors can bridge their past to a future that doesn't just extend life longer but is happier and healthier. —Dana Goldman



**WEB CONNECTION** To hear an interview with Ann Mertens about Survivor Link, visit <http://bit.ly/survivorlink>.

## When bone marrow goes bad

**To this day, the words multiple myeloma make my heart skip.** They take me back to memories of my mother's premature death from this disease, a tenacious cancer of the plasma cells. Little was known about multiple myeloma in the early 1970s when my mother was diagnosed at age 42. Although she had little hope of living long with the disease, thankfully, times have changed, and things have improved for those who have multiple myeloma today.

One of the most famous people to benefit from knowledge about the disease garnered over the past 40 years is Geraldine Ferraro. The first female vice presidential candidate on a major party ticket, Ferraro was diagnosed with multiple myeloma in late 1998. Now, at 75, she is still living with this cancer, which her physicians are able to treat like a chronic disease. She has access to an array of therapies and a clinical trial.

Clinical trials are one of the most effective ways to treat multiple myeloma, according to Emory oncologist Sagar Lonial at the Winship Cancer Institute. "Although the prognosis for people with this cancer is poor, progress is being made," he says. "Twenty years ago, the survival rate was two to three years. Now it's four to five. One of the keys to some patients' longevity is increasing enrollment in clinical trials and access to life-extending drugs."

Estimates put the number of people in the United States who are living with multiple myeloma in the tens of thousands. Healthy plasma cells that live in the bone marrow make antibodies that protect us from antigens like bacteria and viruses. But if those plasma cells become unhealthy—that is, if they grow unchecked—the unchecked growth leads to multiple myeloma.

This type of cancer results in lytic bone disease, or holes in the bones. What's more, the malignant cells crowd out normal bone marrow, resulting in anemia or a low white count and leaving a person vulnerable to infections.

Multiple myeloma is most commonly seen in men, people older



**Geraldine Ferraro has benefited from knowledge about multiple myeloma that was unavailable at the time of diagnosis of the author's mother, Bev Tricoles, pictured below.**



than 50, and African Americans. The average age of patients at diagnosis is 65. However, Lonial also treats many young patients with the disease, one as young as 25 and a lot in their 40s. One Emory researcher has shown that the average age of African Americans at diagnosis is lower than that in other races.

Lonial's research focuses on combining new drugs, which are administered in a highly regimented order. "The sequence of administration may be very important because you may block the effect of a second drug if the first drug is given out of order," Lonial says.

Currently, he and his colleagues at Emory's Winship Cancer Institute are conducting a national epidemiologic study that collects blood samples from more than 1,000 African Americans with multiple myeloma. The researchers will use those samples to sequence the genome

to see if they can identify genes that are associated with a higher risk of multiple myeloma in African Americans.

Meanwhile, with drug order in mind, researchers also are interested in identifying new targets in myeloma—targets that may not be broadly represented in all patients. "We have to get away from the idea that myeloma is a single disease," says Lonial.

"It's not. There are probably about seven or eight genetic subsets of myeloma. What I think we've seen throughout oncology is a revolution on both sides of the equation. We now understand the specifics of cancer better, and we have more tools with which to attack this cancer." —Robin Tricoles

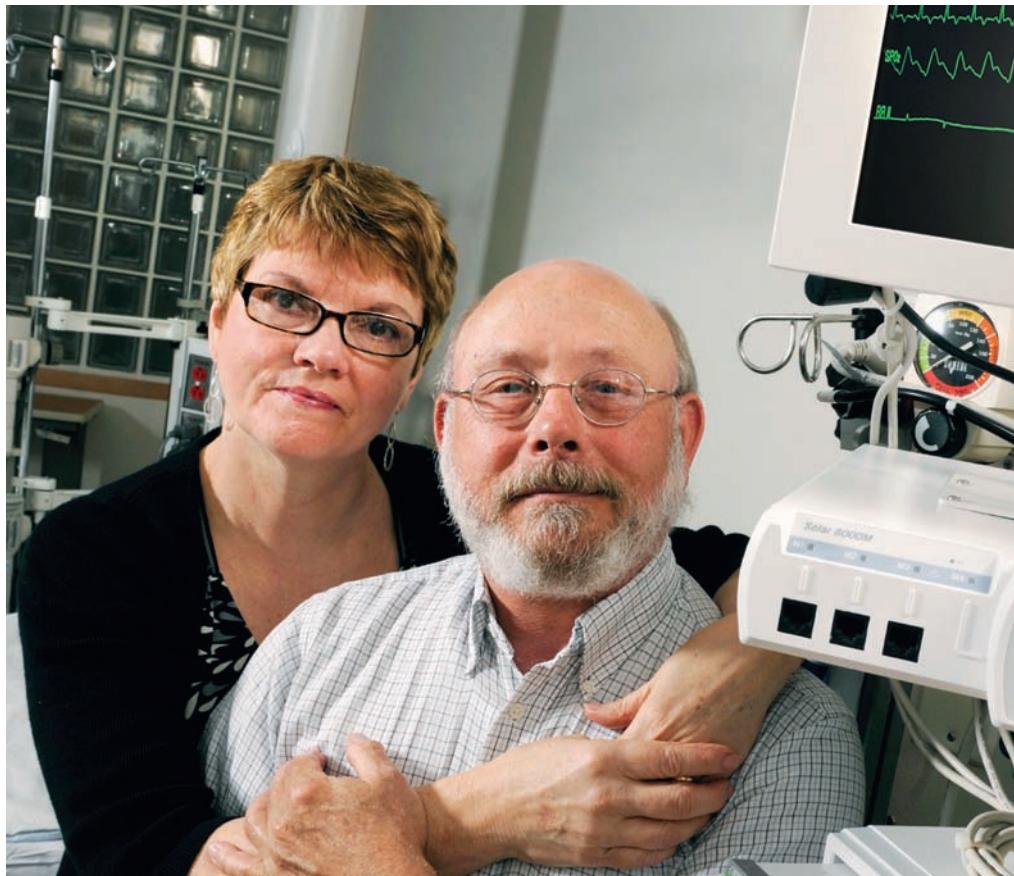
### WEB CONNECTION To hear an interview with Sagar Lonial, visit

<http://bitly/Lonial>. To learn more about progress in hematology, visit

<http://bitly/badmarrow>. To learn more about the Winship Cancer

Institute, visit <cancer.emory.edu>.

## Saving lives, while families look on



**For family members awaiting news of a loved one's struggle with cardiac arrest,** the chasm between the hospital waiting room and the patient's room has been far and wide.

But now in a dramatic change to bring more transparency to patients and families, Emory Healthcare is providing family members access to their loved ones during life-saving procedures.

Linda Hockman of Atlanta (above) experienced the change firsthand last June when her husband, Lee, came to Emory University Hospital with severe abdominal pain. When he slipped unexpectedly into cardiac arrest, she was able to remain only a few feet away from Lee in what she recalls being "the most surreal, yet comforting experience in my lifetime.

"I never felt like there was panic or loss of control—even though it was clear that Lee's condition was continuing to worsen," says Hockman, who is herself a nurse.

Yet when her husband's heart stopped beating, she suddenly felt the entire environment of the room changed. "I recall that moment

as being nothing short of controlled chaos," she says. "Doctors and nurses were coming and going, and everything seemed to be frantic. The main doctor was watching over what was happening with my husband directly in front of him and directing things very calmly. A hospital chaplain came in to speak with me, and other doctors and nurses (including a dialysis specialist) were there because Lee's kidneys were beginning to fail. Throughout this entire event, I was constantly being told about what was going on, why they were doing what they were doing to save Lee's life, even though we still had no idea why he was crashing in the first place."

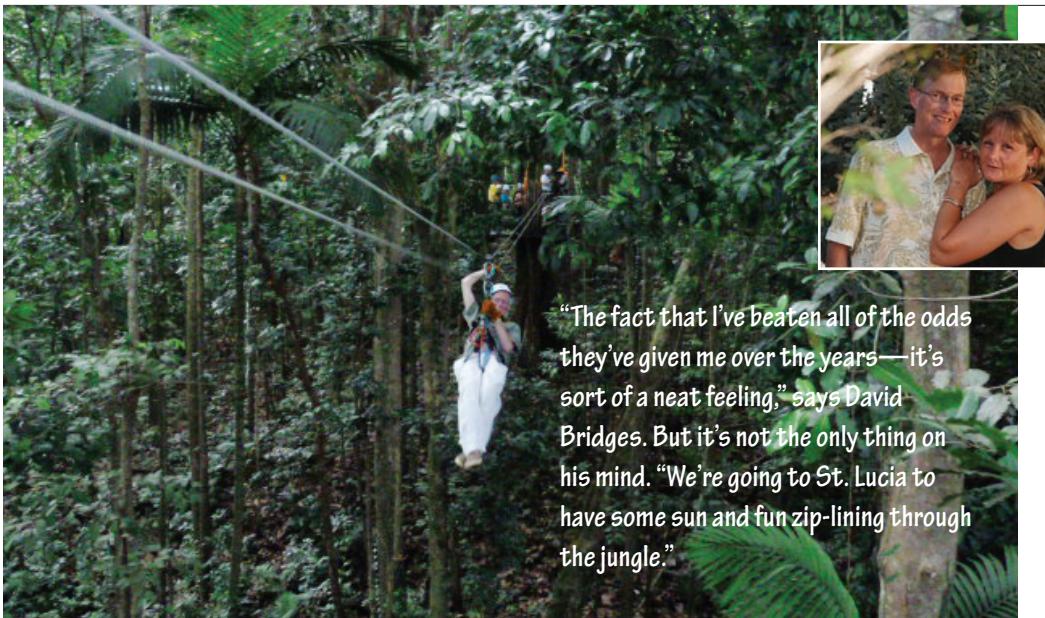
At one point, Hockman felt the need to step out and collect her thoughts and emotions. After Lee was resuscitated and stabilized, she was back in the room, which looked, in her words "as if it was hit by a massive earthquake. There was equipment, paper—you name it—on the floor, physical evidence of the battle that had just taken place there to save Lee. But suddenly, every-

thing felt serene. Good. I was at peace, and I had Lee still with me."

Elaine Puckett, a local church minister and a member of Emory's Patient-Family Advisory Council, stayed by Hockman's side throughout the ordeal. "Not everyone would want to be in the same room under those circumstances," Puckett says, "but many people do. It is natural that people want to know what is being done in such frightening and life-altering circumstances, and we are hoping that this becomes a normal part of the culture within our own hospitals and those across the country."

Emory's shift to establish a transparent culture, bringing patients and family into the care team, has been one of the system's top priorities, says Hal Jones, Emory's director of care transformation. "For the family, it creates a greater appreciation for the efforts taken to save a life under extraordinary circumstances. It creates a sense of partnership, instead of separation. And it provides family members with either a sense of closure or active accomplishment of being there throughout." —Lance Skelly

## A heart for health



*"The fact that I've beaten all of the odds they've given me over the years—it's sort of a neat feeling," says David Bridges. But it's not the only thing on his mind. "We're going to St. Lucia to have some sun and fun zip-lining through the jungle."*

**In most respects, 51-year-old David Bridges had a normal childhood.** Except that he wasn't expected to have a childhood in the first place.

Bridges was born with a rare and complex heart defect called tricuspid atresia, characterized by a nonfunctioning heart valve that makes it impossible for a heart to pump enough blood and oxygen through the bloodstream and into the lungs. The result? A bluish pallor and difficulty for patients to catch their breaths.

Before Bridges's generation, the outlook was poor for those for this condition and other congenital heart defects. "Most people with complex heart defects died in childhood," says Emory cardiologist Wendy Book. And Bridges's childhood physicians expected the same for him. "The doctors didn't think I was going to live that long," he says.

But defying the odds, Bridges became a pioneering patient with the help of a heart shunt that carried blood between his heart and lungs. The shunt enabled him to play an occasional game of football or baseball—at

least until he was out of breath. However, as he got older, moving around got harder and harder on Bridges and his heart. At 18, he was a freshman in college and running out of breath when he simply tried to climb a few stairs.

Soon after, Bridges became one of the first people to undergo a Fontan procedure, a then-experimental surgery to create a new pathway between his veins and pulmonary arteries. "They didn't know what my life expectancy would be afterward. They didn't know the consequences," Bridges says.

Although the Fontan procedure is widely used today, doctors like Wendy Book are still figuring out its long-term impact. "Those who had the Fontan operation typically begin to have problems 20 to 25 years after," she says. "Those problems are related to the high pressures that develop because the veins are connected to the lungs without a pump." Bridges and others have dealt with such symptoms as swelling in the liver and bowels, varicose veins, liver scarring, extreme protein loss, immune system deficiencies,

and heart rhythm problems.

A decade ago Bridges came for treatment of such problems to Book's office at Emory's Adult Congenital Heart (EACH) Center, the largest multidisciplinary program of its kind in the Southeast. The EACH Center works in collaboration with the Sibley Heart Center for children, pairing pediatric and adult cardiologists to provide the best care. Multidisciplinary teams include cardiologists, surgeons, hepatologists, hematologists, anesthesiologists, nurse practitioners, social workers, and others. More than 2,000 congenital heart patients come there annually for treatments and checkups. "I'm challenged every minute of every day trying to come up with solutions," says Book.

But Bridges says that Book and her staff have met each of his medical challenges with expertise and aplomb. As a result of their collaboration, he's healthier now than he was a few years ago. And he trusts his cardiologist enough to try any other new procedures or medications that she recommends. "I'll be your lab rat," he has volunteered.

The busy doctor, however, may have to work around her patient's schedule. These days, Bridges travels often with his wife, living his life as fully as possible. "The fact that I've beaten all of the odds they've given me over the years—it's sort of a neat feeling," he says. But it's not the only thing on his mind. "We're going to St. Lucia to have some sun and fun zip-lining through the jungle," he says. "I have a lot of living to do." —Dana Goldman

**WEB CONNECTION** For more info, call 404-778-7777 or visit [emoryhealthcare.org/connecting/healthconnection.html](http://emoryhealthcare.org/connecting/healthconnection.html).

## Giving voice for a cure

**After his second relapse of acute myelogenous leukemia, Jeffrey Horne would spend late nights in Emory University Hospital talking with his mother, Nancy.** One night he told her, "You know, Mom, God has a plan. It may be that I will get well, and I'll be able to help others who have this disease. And it may be that I won't get well, and then you can help them."

Jeffrey died on January 30, 2008, when he was 20. Nancy Horne is trying to honor his wish. She has established Jeffrey's Voice, a charity that seeks to find a cure for leukemia and other blood cancers. In less than a year, Jeffrey's Voice has raised and donated \$50,000 to



**Brian (left) and Jeffrey Horne shared everything—bikes as children, football in high school, and bone marrow as young men.**

Emory's Winship Cancer Institute to fund leukemia research.

"There are no known causes for this horrible disease and no way to prevent it," says Horne. "That is why research is so important."

Horne got her education in leukemia the hard way. She now knows that these blood cancers seem unrelated to heredity. Circulating throughout the blood stream, they can strike anywhere, and even with aggressive courses of chemotherapy and radiation, they can hide out anywhere in the body. The chemotherapy used to treat them is administered frequently and aggressively in an attempt to destroy the immune system and rid the body of the cancer.

Jeffrey's leukemia appeared out of the blue in February 2007 when he was a junior at Georgia Southern University. With a sus-

picion of leukemia, his local doctors sent him home to Atlanta for more thorough testing at Emory. He got the diagnosis on Tuesday, March 5. It was his birthday.

Brian, Jeffrey's younger brother, also came home from college to be nearby. And Brian's bone marrow turned out to be a perfect match for Jeffrey, but there was a complication: Brian had a heart arrhythmia that was discovered while playing high school football. Doctors were concerned that the growth factor drug he would need to stimulate extra stem cells might overburden his heart. But Brian was determined to help save his brother's life. Eventually, he got a chance to do so.

Initially, the transplant seemed to work, and he went into remission. He stayed away from crowds to avoid exposure to illness, but he was able to register for online classes at Georgia Perimeter College. He was trying to get back to normal, or as his mom says, the "new normal."

Several months passed before the small red bumps that looked like mosquito bites appeared on Jeffrey's legs. "We knew then that there was a problem," Horne says. "The leukemia had been hiding out in his skin."

His Emory team started another round of treatment. He participated in two clinical trials, writing in his journal, "This next treatment is another experimental one and probably of no use to me, but I don't mind being a lab rat if it will help other leukemia patients."

Again Brian stepped up to volunteer as a donor for a lymphocytic transplant, but Jeffrey became too ill just before Christmas 2008 to undergo the procedure. Then four months later, Brian also died. The cause, says Horne, was a broken heart.

These three years later, the example set by Horne's sons give her the strength to keep going. Supported by her husband of 40 years, Claude, and her remaining son Allyn, she is giving voice to Jeffrey's and Brian's desires to find a cure for leukemia. Donors such as UPS—for which both boys worked during two Christmas seasons—have enabled Jeffrey's Voice to make headway against leukemia.

Horne is committed to working with Winship to keep that momentum going. "I am so pleased now to be able to work with Emory on finding a cure." —Rhonda Mullen

**WEB CONNECTION** To support cancer research at Winship, contact Vicki Riedel at [vriedel@emory.edu](mailto:vriedel@emory.edu), 404-727-5939, or visit [cancer.emory.edu](http://cancer.emory.edu). See also [jeffreysvoice.org](http://jeffreysvoice.org).



# Signing the book



By SYLVIA WROBEL • Photos courtesy of  
the HEALTH SCIENCES LIBRARY archives

**The Greatest Generation shares  
war memories with Emory doctors  
at the Atlanta VA Medical Center.**

**F**ive years ago, Emory geriatrician Wilson Holland began reading Tom Brokaw's book, *The Greatest Generation*, the story of those who grew up in the Great Depression and then fought in World War II. He found it hard to put down. He knew these people. As a doctor in the Atlanta VA Medical Center's Bronze Outpatient Geriatric Clinic (for patients 75 and older), he had worked with thousands of men and women like those Brokaw described. He knew their health problems. He knew the way they stolidly bore up under the aches and limitations of aging or illness, and he knew the spouses, sons, and daughters who brought them to the clinic from throughout north Georgia. But what he didn't know, what hadn't seemed appropriate to ask in the busy clinical setting, were their experiences during WWII.



Wilson Holland was selected as national winner of the 2010 Mark Wolcott Award given annually for Excellence in Clinical Care Delivery by the Veterans Health Administration.

Wilson Holland, M.D., F.A.G.P.  
Geriatric Medicine

After his encounter with the book, however, Holland began sharing it with his older patients, telling them how much it had moved him to read about their generation's service and asking if they would like to sign their names in his copy of the book. Perhaps they could add where they served, and if they felt like it, a few words about what they did. As their writing began to fill the margins of *The Greatest Generation*, Holland brought in Brokaw's other books of letters and memories from the era. His patients continued to write. No patient ever refused. In fact, some heard from friends about what the doctor was doing and, before he could ask, they asked him if they too could "sign the book."

More than 1,000 men and women in their late 70s, 80s, and 90s have now recorded their names, branches of the military where they served, and glimpses into history.

US Navy, lost ship in Pacific near Fiji. POW 3 ½ years... Received first message of Roosevelt death, all things came to a halt... Served under General Ray Davis "Last man standing" in the Pacific, lost 72% of my buddies, will always be proud to be an American!... The Battle of the Bulge... Omaha Beach... Escort Destroyer, escorted landing ships for D Day Invasion, multiple attacks... Patrol to protect USS Missouri when signed Peace Treaty in Tokyo Bay... Bataan Death March liberator...

Other former soldiers wrote about watching the flag raised at Iwo Jima, shrapnel that barely missed a sleeping off-duty nurse, and tapping out the telegraph message that Roosevelt had declared war.

Holland had opened a floodgate. Veterans began to bring memorabilia, clippings, souvenirs, and medals to their appointments. The clinic staff set aside several bulletin boards for newspaper clippings, maps, and photographs of teenage soldiers staring into the camera or leaning jocularly against their buddies on distant beaches. Others brought accounts they had written or recorded. One veteran gave several paintings to the clinic, detailed watercolors he had made, he explained, to calm emotions still evoked by memories of his wartime experiences as a pilot. Holland hung them in an exam room where many patients recognized the plane models and were pleased to know that the artist was "one of them."

Holland gently refused gifts that veterans tried to give the doctor whose significance they knew he would understand: Medals of honor. Helmets. A worn, pocket-size Bible through which a bullet had ripped, coming to a halt in the final chapters.

Celebrating their days as soldiers was already part of the lives of some of Holland's patients. One was given the key to a city for having attended the funeral of every veteran in the county until he was well into his 90s.

Holland learned of another patient's activities when he was asked to sign a medical certificate to affirm that the 84-year-old was healthy enough to re-enact his 1944 paratrooper jump into occupied France, which occurred just five hours before American troops stormed the Normandy beaches on D-Day. Eighteen-year-old Carl Beck had hit the ground fast, only to find himself and another paratrooper separated from their group. They slept in the hedge-rows, dodging German patrols, until a local farmer hid them in his barn, feeding the famished men potatoes, boiled eggs, and hard cider. Two days later, the farmer used sign language to point out a platoon of American infantrymen headed toward occupied Baute. It wasn't Beck's platoon, but he set up a machine gun and helped liberate the town. Newspaper clippings on the clinic bulletin board recount the patient's successful second



jump, and photographs document his visit with the French family who protected him decades ago.

Being a veteran has not been easy for members of the greatest generation. Although some never speak of their military experiences, memories bubble up in nightmares, unease, and flashes of anger or anxiety. One of Holland's formerly silent patients, Gerald "Bud" Hipps, joined the Marines immediately after Pearl Harbor. When the 17-year-old arrived at Iwo Jima soon after, the black volcanic sand beaches were littered with American bodies. He endured 36 days of one of the bloodiest battles in the Pacific theater. Of the 240 men in his company, only 27 returned. Coming home with a Purple Heart, the decorated veteran wanted nothing to do with war, refusing to watch war movies or apply for government funds. For years, he was unable to bear anyone, even his wife, walking behind him. He often screamed out at night and flailed wildly. When he was in his 80s, what changed things for Hipps was an "I survived Iwo Jima" bumper sticker. To the amazement of his family, he made one of his own. Strangers began to thank him or honk their horns and wave. His grandchildren looked at him with respect. He now speaks at their schools, at community gatherings, and to the local media.

Reading about others' experiences in the

books at the Bronze Clinic and speaking for the first time about their own memories has been therapeutic for several of the clinic's older patients, says Holland. It has led to recognition of problems that have troubled the veterans throughout their lives and to treatment that has helped mitigate those problems.

The willingness of Holland's veteran patients to talk has been a great gift to families, many of whom did not realize they had a hero in their midst. It also has been a "familial experience for the caregivers at the VA," says Holland, "giving us more insight into the lives of our patients."

As director of Emory's geriatric fellowship program, which trains hundreds of medical students and residents at the Atlanta VAMC, Holland has another reason to be grateful to the veterans. "Our students are learning that what people have done in their lives can be as important to their health as the medical problems they are experiencing. They are learning to think of patient histories in a whole new way."

"For the Bronze Clinic team now, and for the physicians these young people will become," adds Holland, "giving our patients the opportunity to sign these books has provided another way both to understand the service of our greatest generation and to honor the courage and sacrifices they made for our freedom." □

**The partnership between Emory and the Atlanta VA stretches over six decades.** Each year, more than 250 Emory doctors and 142 residents provide virtually all physician care at the VA's hospital and nursing home. Emory scientists have helped place the Atlanta VA among the nation's top VA centers for research, with more than 500 research projects directed at the most serious health problems faced by veterans.

In 1999, the Bronze Outpatient Geriatric Clinic opened to help veterans 75 and older maintain health and independence. A team of physicians, a nurse practitioner, nurses, pharmacists, and social workers collaborate with physical therapists, audiologists, psychiatrists, and others. Holland and Priscilla Zahn, manager of geriatrics and extended care, were original founding physicians.

While most veterans in north Georgia are seen in multiple VA community-based outpatient clinics, approximately 2,500 patients—usually the most frail, with the most complicated medical conditions—call the Bronze Clinic their medical home.



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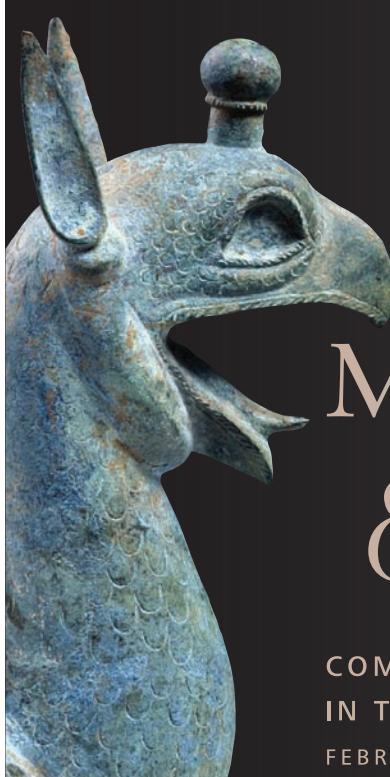
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Need an appointment for an Emory doctor quick? Interested in registering for a prenatal class? Want to learn how to protect yourself and your family from flu? Stacey Hammett can help you with that and more.

Hammett is one of the 14 registered nurses who answer 16 phone lines at Emory Healthcare's HealthConnection. A one-stop shop for patients and referring physicians, HealthConnection is available 7 a.m. to 7 p.m. each weekday. **What would you like to know?**

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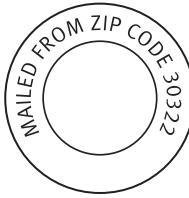
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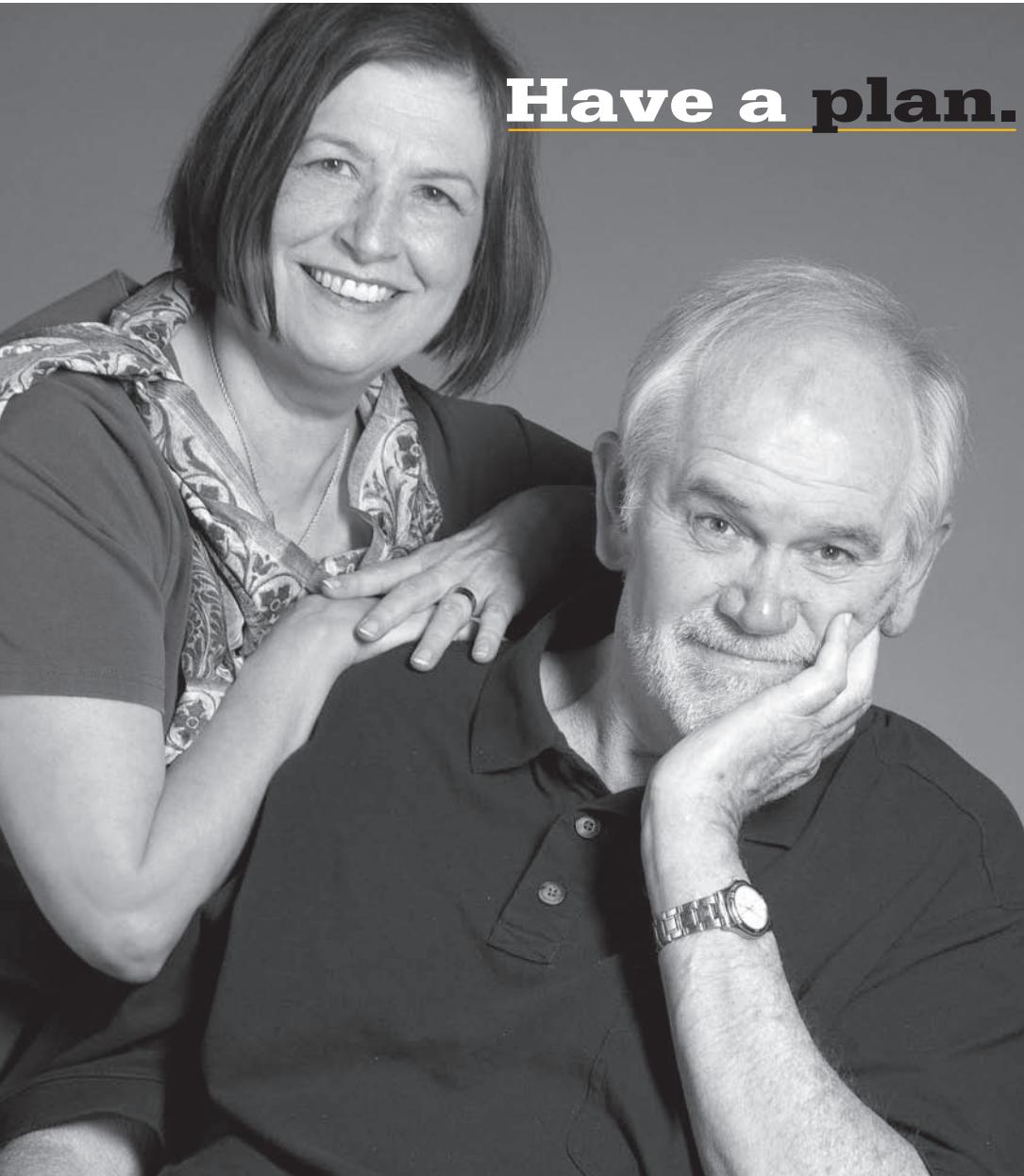
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Allen Hauck and his wife, Cathy, are strengthening the family's Emory connection even further with a bequest. Made in honor of his parents, their gift will support surgical research at Emory School of Medicine and scholarships at the Nell Hodgson Woodruff School of Nursing.

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