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EMORY | Winship
SUMMER 2013

The bringers of hope

The team at Georgia’s largest, most diversified program for bone marrow transplant takes on the full range of cancer cases, turning despair to hope.

Ned Waller (center) directs Winship’s Bone Marrow Transplant team, which this year expects to reach a milestone of 4,000 transplants performed. Other members of the BMT team include clinician and researcher Martha Arellano (left) and Amelia Langston, BMT medical director.
Dear Friends:

Thank you for taking time to read through this issue of Winship Magazine. On behalf of the faculty and staff here at the Winship Cancer Institute, we hope that you find our summer issue to be informative and that you’ll share it with friends and family.

The theme that comes to mind when I read through many of these stories is “power.” From the incredible power to heal that will be generated by the massive new proton therapy center to the strengthening power of hope provided by physicians, nurses, researchers, and staff of Winship’s Bone Marrow Transplant team, we work to give power back to those whose lives have been turned upside down by a cancer diagnosis.

We also have included stories of the power of philanthropy, specialized services, and the education of our next generation of investigators, which all impact cancer treatments. I think, for example, of our story on Emory’s Cancer Biology Graduate Program, in which Winship is working to strengthen our offense and build a deep bench of young investigators who will pursue today’s research for tomorrow’s cures.

There’s power in the work that we do here every day, and there is great power in your interest and involvement in Winship. I invite you to join us on October 5 for the third annual Winship Win the Fight 5K. Become a “Winship warrior” by participating in an event that is both fun and inspiring. We’re encouraging folks to create teams to help raise critically needed funds for cancer research. These teams can be comprised of runners, walkers, or even those who choose to stay at home with a cup of coffee. Our “sleep-in warriors” can donate to the cause and be recognized too. In just three short years, the Winship Win the Fight 5K has become one of Atlanta’s most popular, family-friendly runs.

Please take a moment to check out the Winship Win the Fight 5K at winship5k.emory.edu to learn how to realize the power of your participation. See you at the race on October 5!

Sincerely,

Walter J. Curran Jr., MD
Executive Director, Winship Cancer Institute of Emory University
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A new cancer biology graduate program immerses students at an early stage of their education.
Fadlo R. Khuri, deputy director of Winship and one of the world’s leading experts in lung and other aerodigestive cancers, was awarded the Richard and Hinda Rosenthal Memorial Award from the American Association for Cancer Research (AACR) in recognition of outstanding contributions and accomplishments in medical oncology. The award recognizes Khuri’s work for the prevention and treatment of lung and head and neck cancers.

The Rosenthal Award is given each year to an investigator who is 50 or younger and whose contributions to cancer research have led to new understandings of cancer and show promise for even greater advances in the future. Two previous Rosenthal winners have gone on to win the Nobel Prize.

Khuri, who holds the Roberto C. Goizueta Chair in translational research at Emory and is editor-in-chief of Cancer, received the award in April at the AACR’s annual conference in Washington, D.C.

“As a practicing clinical oncologist and as a physician scientist, I feel it is a profound honor to receive the AACR Richard and Hinda Rosenthal Memorial Award, particularly in light of the extraordinary role models who have previously received it,” says Khuri, who is professor and chair of Emory’s Department of Hematology and Medical Oncology and adjunct professor of medicine, pharmacology, and otolaryngology. “The award recognizes work by our team of physicians and scientists at the Winship Cancer Institute and the MD Anderson Cancer Center, all of which was carried out with the sole purpose of making a difference for patients with lung cancer or head and neck cancers.”

Walter J. Curran Jr., who nominated Khuri for the AACR award, says that the honor is no surprise to those who know Khuri and his work.

“Fadlo’s leadership in lung cancer research therapy is legendary. He has helped advance our understanding of the nation’s number one cancer killer by introducing novel therapeutic agents that have changed how people live with this disease,” says Curran. “More than any other person I can think of, he has changed how we think about lung cancer. He’s enabled many people to live with this disease as a chronic, manageable illness rather than as a death sentence. I am thrilled that he is receiving this prestigious national award for the tireless work he has invested in patients.”

Howard Halpern, a survivor of head and neck cancer, was so impressed with Khuri that he and his wife Lynne established a $2.5 million endowed chair at Winship in his honor.

“Dr. Khuri and his team saved my life,” says Halpern. “Lynne and I can hardly express the depth of our gratitude for the extraordinary care we received at Winship.”

The Rosenthal award is designed to provide incentive to young investigators early in their careers. It was established in 1977 by the AACR and the Rosenthal Family Foundation to recognize research that has made, or promises to make, a notable contribution to improved clinical care in the field of cancer.

Khuri was instrumental in obtaining the National Cancer Institute (NCI) designation for Winship in 2009. Additionally, he worked to increase NCI peer-reviewed funding in cancer at Emory, from $7.4 million in 2000 to more than $30 million in 2011. His contributions to cancer research and patient care extend beyond the laboratory. He has helped increase patient enrollment in therapeutic clinical trials from 143 in 2001 to more than 500 in each of the last three years.
Budget cuts could hurt medical research for years, Curran tells Congressional committee

Winship’s executive director was the only director of an NCI-designated cancer center to be asked to testify before a Congressional subcommittee about the effects of budget cuts on scientific research. Walter J. Curran Jr. urged Congressional leaders to shore up support for cancer research in light of a projected $1.6 billion drop in National Institutes of Health (NIH) funding.

Curran testified on behalf of the Association of American Cancer Institutes, which represents 95 of the nation’s premier academic and free-standing cancer research centers.

“Winship has an outstanding research team making real progress in understanding how to target newly discovered mutations causing lung cancer, the type of cancer causing the most deaths in our country,” Curran told the subcommittee.

“We are observing an increase in the number of lung cancer patients who have little or no tobacco use history, and we are just beginning to understand the genetic and genomic risk factors of such individuals for developing lung cancer. A break in funding support of this and other projects could delay finding new and effective therapies for thousands of patients by years.”

Curran testified before the U.S. House of Representatives’ Appropriations Subcommittee on Labor, Health and Human Services, Education and Related Agencies, chaired by U.S. Representative Jack Kingston (R-Savannah) of Georgia.

NEW GUIDELINES FOR PATIENTS WITH LOW WHITE BLOOD CELL COUNTS

New guidelines from the American Society of Clinical Oncology help identify patients with febrile neutropenia, a common condition for those fighting cancer who are at low risk for complications and can be treated without hospitalization.

Winship Cancer Institute’s Christopher Flowers, associate professor of pediatrics and hematology and medical oncology at Emory, was co-chair of the expert panel that developed the guidelines.

They will help doctors identify patients who are at high risk of medical complications related to neutropenia with fever, clarify when preventive treatment for infection is needed, and provide guidance on which patients can be safely managed at home during a febrile neutropenia episode. They address issues including prophylactic antimicrobial drugs and protective environments to prevent infection in neutropenic outpatients.

“This will help spare select patients from discomfort and risks of hospitalization, such as exposure to treatment-resistant microbes. It has the potential to save substantial resources,” Flowers says.

Neutropenia, which indicates low levels of a type of white blood cells called neutrophils, can be caused by cancer itself or by chemotherapy. People with neutropenia are about 50 times more likely to develop an infection compared with people with normal blood counts.
Findings on chemoprevention provide hope

A new research finding from Winship is proof-of-principle that precancerous oral lesions can be prevented from transforming into squamous cell carcinoma. Dong Shin (pictured below), professor of hematology, oncology, and otolaryngology and director of Winship’s Cancer Chemoprevention program, published the findings in *Clinical Cancer Research*. The next step for investigation is exploring whether the same results can be duplicated by using non-toxic chemicals, such as those found in green tea and red wine. The original study used agents that do have toxicity.

Based on prior research suggesting a role for epidermal growth factor receptor (EGFR) and cyclooxygenase-2 (COX-2) in promoting squamous cell carcinoma of the head and neck (SCCHN), Shin and colleagues hypothesized that combining an EGFR inhibitor and a COX-2 inhibitor could provide an effective chemopreventive approach.

They found that the combination of the EGFR inhibitor erlotinib and the COX-2 inhibitor celecoxib was more effective for inhibiting the growth of human SCCHN cell lines compared with either drug alone. In addition, treating mice with the drug combination prior to transplanting them with human SCCHN cells more effectively suppressed cancer cell growth than did pretreating the mice with either drug alone.

Based on these preclinical findings, Shin and colleagues initiated a phase I chemoprevention trial. Eleven patients with advanced oral precancerous lesions were assigned to treatment with erlotinib and celecoxib. Tissue samples from the patients were obtained and evaluated pathologically at three, six, and 12 months after therapy initiation. Biopsies at baseline and follow-up were available for seven patients.

“Prevention is not achieved through short-term treatment,” Shin says. “So, we are investigating the safety and toxicity of this combination further before planning a large-scale trial. We also are looking to combination therapies using less toxic compounds.”

That combo would include Polyphenon-E, one of the active ingredients in green tea, which Shin has spent years studying in the laboratory.

“It would be great if we could treat these lesions with less toxic chemicals, such as those found in green tea, and still achieve the same effect,” Shin says.

Latest news on prostate screening from the American Urological Association:
The Prostate Health Index, a blood test used to evaluate the probability of prostate cancer diagnosis, outperformed two commonly used tests—the prostate-specific antigen and free/total prostate-specific antigen—in predicting the presence of clinically significant prostate cancer and in improving prostate cancer detection, according to a new study by Emory urology chair Martin Sanda, who presented the finding at the association’s May meeting.

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WINSHIP WELCOMES PROSTATE CANCER EXPERT

Martin G. Sanda joined Emory on March 1 as chair of the Department of Urology, service chief for Emory Healthcare, and director of a prostate cancer center that will be established at Winship. Sanda was most recently professor of surgery in urology at Harvard Medical School, director of Beth Israel Deaconess Medical Center’s Prostate Cancer Center, and co-leader of the prostate cancer program at Dana Farber Cancer Center.

His clinical practice, which includes robotic prostatectomy and robotic cystectomy, is focused on developing new surgical and non-surgical approaches to cancer care and to improving the quality of life among cancer survivors. He emphasizes the importance of individualizing patient care and feels that Winship is well positioned to pursue that approach in multidisciplinary prostate cancer clinics.

“When you focus on individualized medicine, there’s a co-alignment of clinical care and research,” he says. “Patients benefit from our research into areas such as genomic testing, new treatments, and quality of life issues.”

Winship leaders key in new cooperative group

Two of the national chairs of a newly reorganized cancer cooperative group are Winship leaders.

Executive Director Walter J. Curran Jr., is one of three group chairs who will guide NRG Oncology, a new cancer cooperative that integrates three of the 10 cancer groups supported by the National Cancer Institute (NCI). He also will continue to serve as chair of Radiation Therapy Oncology Group (RTOG), one of three NCI-supported groups merging into NRG Oncology. Two additional groups are the National Surgical Adjuvant Breast & Bowel Project and the Gynecologic Oncology Group.

According to Curran, the choice of NRG for the new cooperative name is not intended as an acronym, but as a homonym for “energy,” a reflection of the groups’ highly productive and creative approach to cancer research.

Winship’s associate director for Outcomes Research and a nursing professor, Deborah Bruner, also joins NRG Oncology, as deputy group chair for scientific publications. She brings 25 years of experience in the RTOG Community Clinical Oncology Program, where she is the principal investigator. She feels the merger will produce great synergy between the three groups and highlight the best practices of each. The merger will create the world’s largest cooperative with a focus on women’s cancers, she says.

Study shows benefit with higher dose of drug to treat lung cancer

Winship investigators have made a significant advance in fighting a hard-to-treat form of lung cancer. Everolimus, part of a class of drugs called mTOR inhibitors, displayed metabolic activity against non-small cell lung cancers in a small “window of opportunity” study of patients preparing for surgery. Contrary to previous reports, everolimus displayed activity in tumors carrying the K-ras mutation, a marker for a particularly stubborn form of non-small cell lung cancer.

Emory hematologist and medical oncologist Taofeek Owonikoko (above) presented the results at the American Association for Cancer Research (AACR) meeting in April. The study also was accepted as a late-breaking abstract at AACR’s annual convention. “This study was designed to try to answer the basic question: when we give mTOR inhibitors to lung cancer patients, are we hitting the target?” Owonikoko says. “The answer is ‘yes.’”
The power of the proton beam

Emory’s new proton beam therapy center in Midtown will bring more focused cancer treatments and clinical trials to patients in Georgia.
Winship Cancer Institute physicians and staff will not only be vital partners in the treatment of patients at a new proton beam therapy treatment center in Midtown but also conduct clinical trials to better understand the best uses for this advanced form of radiation treatment. Proton beam therapy allows for more precise treatment of a tumor.

The groundbreaking in May 2013 heralded the arrival of Georgia’s first treatment center to offer the most advanced radiation therapy in the United States. When Emory Healthcare opens the doors in 2016, the $200 million high-tech center will be one of fewer than 20 such centers in the nation to offer proton beam therapy, and it will further establish Atlanta as a center for biomedical innovation.

The most important benefit to proton beam therapy is that it limits damage to nearby tissue more than other radiation therapies currently available. The construction of a proton beam therapy center at Emory marks a major milestone in the treatment of cancer in the state.

“This new facility is significant for Winship but, more importantly, for our patients,” says Walter J. Curran Jr., Winship executive director and the Lawrence W. Davis Chair of Radiation Oncology. “Proton beam therapy matters a great deal in improving outcomes in certain cancers and in minimizing exposure to healthy tissues in others.”

That therapy particularly includes children, Curran says. He was instrumental in helping secure the agreement to bring the proton beam therapy to Emory, for which he received the Visionary Award from the Brain Tumor Foundation for Children.

William G. Woods, Daniel P. Amos Chair and Director of the Aflac Cancer and Blood Disorders Center at Children’s Healthcare of Atlanta and Emory, mirrors Curran’s thoughts.

“Children with brain tumors have the potential to have devastating outcomes for future brain development, from both the tumor and its surgery as well as from necessary radiation.”

Research already has shown that patients with prostate cancer and brain cancer benefit from proton beam therapy. Winship researchers want to learn whether all cancer patients who need radiation therapy may benefit from proton beam therapy.

More than half of all cancer patients receive some form of radiation therapy, which works by damaging the DNA of dividing cells. Radiation therapy is created by photons, discrete bundles of electromagnetic energy that have properties of particles and waves. The energy created by photons diminishes gradually because of their wave-like property. This gradual fading results in a so-called “exit dose” for cancer patients, meaning that nearby, healthy tissue that lies beyond a tumor may be harmed, says Ian Crocker (left), professor of radiation oncology at Winship and Emory. Many advances in radiation techniques over the years have greatly limited that damage, Crocker says, but in certain patients, it is important to limit that dose even more, if possible.

Proton beam therapy allows for that possibility because it can be more precisely controlled. Proton beams stop at a precise point rather than fade, allowing tissue near the tumor and beyond to be spared and limiting the exit dose.

In addition, proton beams damage less tissue as they travel through the body to the tumor, Crocker says. The sparing of nearby tissue allows doctors to administer higher, possibly more effective, treatment doses. As a result, because side effects are usually fewer, patients who also need chemotherapy are often better able to tolerate it, Crocker says.
The bringers of hope

The bone marrow transplant team is turning despair over a full range of cancer cases into real hope.
Even in the best of cases, patients who have had bone marrow transplants face a risk of rejection after transplant.

Debbie Barth, however, experienced rejection before hers.

Barth had been seriously ill for two years. A bone marrow transplant was her only hope. When she was rejected for a bone marrow transplant by the Atlanta hospital where she had been treated for those two years, she was terrified. She knew the end of her life could be near.

“I was at the end of my rope, and they wouldn’t even take me,” says Barth, who was subsequently treated at Winship and now is happy to be enjoying life for the first time in years. “I don’t know what I’d have done if I hadn’t found Winship and Dr. Waller [Winship oncologist Edmund Waller]. He gave me hope. He gave me a new life.”

Many patients like Barth, who had been told she was too high-risk for a transplant, arrive at Winship’s Bone Marrow and Stem Cell Transplantation Center having exhausted all other options and time. Some have been turned away from other bone marrow treatment centers because their cases are extremely complicated. Some treatment facilities turn patients away simply because their prognoses are not good.

Winship’s bone marrow transplant (BMT) program is for all Georgians, with physicians fiercely committed to treating patients and to advancing the science that supports that treatment. That commitment is not limited by a patient’s age, severity of illness, or type of insurance coverage.

“We are the tertiary referral center for the most complicated cases in the Southeast,” says Sagar Lonial, an international expert on multiple myeloma, one of the cancers that is often treated with a transplant.

In addition to taking on the most complicated cases of blood cancers, Winship physician-scientists are leading the medical advances that have changed how these cancers are treated, including the development of new drugs, combinations of drugs, and ways to minimize risk of rejection, or graft-versus-host disease, after a transplant. Another Winship strength is its focus on an individualized treatment plan tailored to each patient’s case.

“We are disease-focused and not just transplant-focused,” says Lonial.

In addition, the Winship bone marrow transplant team has led the way in establishing best practices from which those individualized plans are developed.

“Others follow guidelines. We set guidelines,” says Lonial.

He’s not exaggerating. For example, Winship patients benefit from more than 60 ongoing clinical trials related to these diseases, with 17 open or soon to open, that focus specifically on transplant. Winship also is the leading accruer of patients in a national clinical trial headed by Emory cardiologist Arshed Quyyumi that examines the effect of bone marrow stem cells on recovery after heart attack. The study tests whether such trans-
plants will improve healing and blood flow within the heart. The team consistently publishes studies in leading scientific journals that push forward the knowledge not only about transplantation but also the diseases for which it is used as treatment. For example, Lonial was one of only three clinicians worldwide to be awarded with an Innovator Award from the Multiple Myeloma Research Foundation last fall. He also is one of three members of that group’s steering committee.

Lonial and his team, including Jonathan Kaufmann and Ajay Nooka, have identified eight genetic subtypes of the disease and also have worked on virtually every new drug approved for treatment of myeloma in the past 10 years—two of which have been approved in the past year alone.

The group sets guidelines—and changes how diseases such as myeloma, leukemia, and lymphoma are treated—based on the depth and breadth of their research. Equally important, they translate that research into patient care. In fact, the BMT program is one of the best examples of how patient care is shaped and informed by the high-level research that happens within an NCI-designated center and a research university.

**Scientific advances** Patients who come to Winship for a bone marrow or stem cell transplant may have a hematologic cancer such as leukemia, lymphoma, or multiple myeloma that is destroying the cells in the bone marrow responsible for producing new blood cells. Other patients have aggressive cancers that have relapsed or become unresponsive to standard treatment or have severe autoimmune disorders that are unresponsive to intensive drug therapy. Some, like Barth, have aplastic anemia. Winship is there for all of them.

It’s immensely rewarding, says BMT Center Director Waller, “to be able to turn despair to hope, by providing a personalized therapy with the potential for cure.”

**Winship’s bone marrow transplant program is for all Georgians, with physicians fiercely committed to treating patients and to advancing the science that supports that treatment. That commitment is not limited by the patient’s age, severity of illness, or type of insurance coverage.**

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4 YEARS AND COUNTING — With a diagnosis of multiple myeloma at age 33, Tamara Mobley arrived by ambulance at Emory. After a transplant four years ago, today she is enjoying family life. Mobley says that she feels honored to be under the care of her Winship team.
A shared journey back to health

“No matter how dedicated we are to the science and medicine of transplant, we never lose sight of the very human experience it is for our patients and their families,” says Amelia Langston, Bone Marrow Transplant (BMT) Program Medical Director.

It’s also intense for Winship clinicians. “Many of our patients are so sick when they arrive, yet display such amazing courage and spirit over the weeks or months sometimes required for recovery, that members of the BMT team form incredible bonds with them, not just as patients but also as people.”

For many patients, physical activity is an important part of the journey back to health after transplant, and the BMT team loves being there for the ride—sometimes literally. For example, when Bob Falkenberg celebrated his victory over acute lymphocytic leukemia with a summer-long bicycle ride from Boston to Key West, Langston and nurse practitioner Jessica Thomas took off a weekend to bike some 200 miles beside him. Several of the nurses who had cared for him during his BMT served as drop off/pick up drivers and cheerleaders.

You don’t have to cover miles to benefit from the healing potential of doing normal things, says Langston. During Winship’s annual Win the Fight 5K, she sees many patients who have completely regained their old lives and others who still struggle but nonetheless cheer on their clinicians and friends, hold their kids’ hands, and laugh, “living their lives with sheer grit and determination.”

Such spirit inspires the BMT team every day, says Langston, and the 2012 Summer Olympics also inspired her to create the Oncology Olympics. Every day during the international Olympic Games, most recently in London, BMT and other cancer patients, families, and staff gather on the BMT ward at Emory University Hospital to participate in events organized by the BMT nurses such as the hula-hoop marathon, syringe shooting competition, and bedpan shuffleboard. Winship Executive Director Walter J. Curran Jr. even got in on the fun, “medaling” in the most recent wheelchair race. The patients loved it.

“It shows how much they really care about you here at Winship,” says patient Joseph Allen. “It wasn’t what I expected at such a big place, but they are here for you doing everything they can for you. It really helps lighten the load.”

Langston also uses her experience as a runner to raise money for cancer, whether as part of Winship’s own annual 5-K race or in various other events for which she exacts pledges of support for cancer research from friends and colleagues. Last November, she completed the New York Marathon, wearing a shirt signed by many of her patients and bringing in about $3,000 to benefit Be the Match (marrow.org). She and physician Martha Arellano also participate in the Leukemia and Lymphoma Society’s Team in Training (teamintraining.org), which prepares novice and veteran athletes alike for endurance running, biking, swimming, and other events to raise money for the fight against blood cancers.

Since Emory’s first bone marrow transplant in 1979, the Winship program has grown steadily in scope, depth, and breadth of clinical trials and experience. Winship BMT physicians expect to reach a major milestone this year—the 4,000th bone marrow transplant. A team of eight physicians, more than 40 specially trained nurse practitioners and physician assistants, and other staff provided 346 bone marrow transplants last year alone, making Winship one of the country’s 10 highest-volume adult BMT centers. In addition, these Winship physicians are conducting clinical trials that result in improvements to protocols that other treatment centers follow, making Winship a clear leader in the state and the Southeast. Just last fall, thanks to Waller, the world’s leading BMT experts gathered at Winship for an intense exchange of ideas for improvements to the BMT process.

Winship also is Georgia’s broadest, most diversified BMT program, treating the full range of conditions for which transplant is used. In addition to being designated a national center for excellence by various insurance carriers, Winship is recognized nationally as a referral center of excellence for complex and rare cancers—and for its long-term success in transplanting patients with more complicated illnesses than those accepted for transplantation elsewhere.
Winship constantly is striving to make transplants more successful, with fewer complications, as demonstrated by the following examples.

**Choosing the best cells.** Using stem cells from donor bone marrow — the most common form of BMT—is a balancing act. The healthy donor cells attack and kill cancer cells. But these same donor cells (called the graft) sometimes regard the recipient’s body (called the host) as foreign. They therefore mount an immune response resulting in problems ranging from dry mouth and skin rash to severe infection and organ damage. A good match lowers the risk of this graft-versus-host disease. There is no risk for autologous transplants using a patient’s own stem cells and very little risk for transplants from an identical twin. However, even with treatment that suppresses the unwanted immune response, the chance of graft-versus-host disease rises to 30% to 40% for allogeneic transplants using cells donated by siblings or family members and 60% to 80% for unrelated donors, according to the National Institutes of Health (NIH).

“We can’t control what disease the patient has or whether he or she has an identical twin, brother or sister, or other great tissue match,” says Waller, “but increasingly we can control which cells we transplant.” In earlier studies...
using a mouse model of leukemia, he and Emory colleagues discovered that precursor bone marrow cells that produce a rare subset of bone marrow cells called plasmacytoid dendritic cells (pre-pDCs) help activate transplanted cells to attack the leukemia while minimizing the immune overactivity that causes graft-versus-host disease. When Emory received a $2 million grant to characterize grafts given to 550 cancer and autoimmune disease patients nationwide and to analyze the success of their transplants accordingly, preliminary analysis showed similar improvement in transplant success for patients who received more pre-pDCs from their bone marrow donor. Results were published in the *New England Journal of Medicine*, with Waller as a major author. Taking these clinical results back to the mouse lab, the team is unraveling the answers to exactly how transplanting more pre-pDC increases the chance of cure.

**Amplifying cells in the lab.** Most transplants use 100 billion bone marrow cells or more. What if, instead of painstakingly picking out highly desirable cells, you could just multiply those you want, like the magic brooms in the Sorcerer’s Apprentice? It’s no fairy tale, says Waller. Last year, with support from Winship, Children’s Healthcare of Atlanta, the Aflac Cancer & Blood Disorders Center, and the Emory School of Medicine, Jacques Galipeau, an expert in helping the body repair or regenerate cells, tissues, and organs, launched a new Emory Personalized Immunotherapy Center (EPIC). The center is designed to create new, personalized cellular therapies for Emory patients facing medical catastrophes including cancer, autoimmune disease, and various heart, lung, and neurologic problems. EPIC scientists already are involved in removing and amplifying specific bone marrow cells found to suppress the immune system, then working with Winship’s BMT team to return them to young patients with Crohn’s disease. Now, a grant from the Georgia Tech/Emory Center for Regenerative Medicine is enabling the team to test a new method of increasing the numbers of pre-pDC cells in the graft before transplantation. Next step? A clinical trial to see if transplantation of large numbers of these cells can control the overactive immunity that causes graft-versus-host disease and graft rejection.

**Broadening the possibilities for transplant.** At Winship, a large multi-specialty committee reviews each new cancer patient’s case, recommending the best possible treatment or combination of treatments, whether chemotherapy, radiation, or transplant; whether transplant using a patient’s own cells, donor cells, or umbilical cord blood; or whether a clinical trial offers something needed by a specific patient. As Georgia’s only cancer center designated by the National Cancer Institute and as a core site of the NIH-funded Blood and Marrow Transplant Clinical Trials

**Glossary**

**Bone marrow:** the soft, fatty tissue inside bones. The human body contains many stem cells, cells that can differentiate into different cell types and whose job is to repair and maintain the cells in the part of the body where they are found. Stem cells produced in the bone marrow are responsible for the production of red blood cells, white blood cells, and platelets.

**Bone marrow transplantation:** replacing diseased or damaged bone marrow stem cells with healthy ones. The intense chemotherapy and radiation needed to destroy cancer cells also destroy the sensitive bone marrow cells, which must be replaced. In autologous transplants, some of the patient’s own stem cells are removed, either from circulating blood or directly from the marrow, then frozen and stored before chemotherapy and/or radiation. Returned when treatment is over, the cells resume producing healthy, normal blood cells. In the more common allogeneic transplants, the only difference is that the cells to be transplanted come from a donor. Identical twins are the best genetic matches (syngeneic transplants), followed by siblings and other family members; but suitable unrelated donors can sometimes be found through a national bone marrow registry.

**Graft-versus-host disease:** a life-threatening condition in which the transplanted donor cells (the graft) attack the patient’s body (the host).
Network, Winship has access to the newest and most promising trials. A fourth of BMT procedures at Winship take place under the umbrella of a national clinical trial. That means hope for some patients for whom no hope had existed. It also means that many patients treated at Winship benefit from treatments that may not be available at nonacademic centers for years.

For example, Amelia Langston is an investigator in a national phase 3 clinical trial examining whether patients with acute myelogenous leukemia or myelodysplastic syndrome, whose disease is in remission, may do just as well with less intense pre-transplant chemotherapy as they would with much more concentrated, traditional pre-treatment. If “reduced intensity” transplant proves as effective, it would decrease hospitalization and costs, not to mention stress on patients, and would provide another option for patients whose general poor health makes them a poor candidate for traditional high intensity transplant. Langston already has demonstrated that older patients whose cancer is in remission can benefit from the reduced intensity transplant approach.

Tamara Mobley found Winship when she was referred by a physician at another Atlanta hospital. She had become very ill, very quickly at age 33 in the fall of 2009. She ended up in the emergency room and later learned her diagnosis—multiple myeloma. Without hesitation, the physician told her she needed to go to Winship.

“He said, ‘if it were my daughter or my wife, I’d send them there,’” recalls Mobley. She was so ill that she was taken by ambulance to Emory University Hospital, where Winship patients receive their transplants.

Now able to enjoy her two young children, Mobley says she feels grateful she was referred to Winship. “I totally love Dr. Lonial and Charise,” she says, referring to Winship nurse practitioner Charise Gleason. “I feel honored to be under Lonial’s care.”

William Fuentes of Calhoun also was diagnosed last fall when he was in his early 30s.

“I’d never even heard of it,” Fuentes says. His disease manifested itself in his spine, and he was in excruciating pain. Like Mobley, he was brought to Winship by ambulance. The father of two preschoolers was scared. He worried about what would happen to his wife, Sonya, and their children should something happen to him.

“I used to cry a lot when the children weren’t watching,” says Fuentes, the manager of a McDonald’s. “They were always asking, ‘why are you going to the hospital so much?’

Fuentes credits the entire treatment team for providing critical emotional and other support.

“I couldn’t have asked for better treatment,” he says. Social workers made sure gas cards were available when funds ran low. A team of employees from the clinical trials unit came together
and provided Christmas gifts for the family.

“My wife is so thankful. We love it here,” says Fuentes. His doctor is Ajay Nooka, the newest faculty member of the team. As a fellow, Nooka presented posters at last year’s annual meeting of the American Society of Clinical Oncology (ASCO), reporting data from his studies that show how special interventions before transplantation can help myeloma patients who have complicated disease.

Like his mentors, Nooka is showing the signature compassion for which the team is so loved.

“He’s the nicest man I’ve ever met,” says Fuentes. “He has such integrity. He never changes, no matter who he’s around. He treats both his patients and his team well.”

Debbie Barth’s mother Joanie says a certain word comes to mind when she thinks about her daughter’s physician: gratitude.

“I can’t tell you how I felt when we got into that room with him that first day,” she recalls of Debbie’s first appointment with Waller. “Instead of saying there was no hope, he said she had a 50% to 80% chance.”

Barth’s mom recalls falling silent and then asking Waller: “Can you tell me whether it’s closer to 50 or 80?”

Waller looked at his patient’s mom and said, “Ms. Barth, she’s going to make it.”

“I just started crying and crying because for the first time, we had hope,” she says. “When he spoke, the whole room just filled up with hope.”

Dozens of service awards hang on the wall on the eighth floor unit of the Emory University Hospital, where transplants take place. These awards recognize the nurses and nursing staff on 8E, which show not only the commitment and compassion of the nurses but also a depth experience that cannot be matched elsewhere in the state. Several note 25 years of service or more. Karen Donegan has 35 years of service and Mitzi Smiley 25. BMT nursing director Emily Bracewell has worked with the team for 35 years. Nursing unit clerk Constance Tucker has been there for 25 years.

The nursing staff at Winship, including nurse practitioners such as Jessica Thomas, Rachel Veldman, and Charise Gleason, and at EUH are key parts of the bone marrow transplant program, patients and physicians say.

“The knowledge and compassion of our nursing staff is amazing,” says Medical Director Amelia Langston. “Our patients never fail to let us know how much they appreciate their nurses, and we in turn appreciate the critical contributions they make to our patients.”

The length of service is not only evidence of commitment but also of expertise, Langston says.

“It means a lot to us as doctors knowing that this nursing staff can handle anything that may happen,” she says. “Their knowledge and expert ability strengthens patient care, and, we believe, helps improve patient outcomes.”

Be the Match. Two-thirds of the allogeneic or donor transplants performed at Emory use cells from unrelated donors, strangers who have registered in the national marrow donor program. Swiping the inside of their mouths with a cotton swab provides all the genetic information needed for doctors around the world to search the registry for a tissue match for a patient. If a close enough match is found, the potential donor is asked to donate either bone marrow or stem cells found in circulating blood.

You can save a life by becoming a bone marrow donor, and it is not a painful procedure. While donors in years past had to typically undergo a surgical procedure, now most do not. If you would like to find out about becoming a donor, go to marrow.org.
Melanoma surprised Neil Gaines when he was only 27. Now cancer-free, he and his family are out to raise awareness for the most deadly of skin cancers.

Neil Gaines was enjoying the happiest time of his life—graduating from the University of Georgia, falling in love, getting a job—when he hit a bump in the road.

Actually, the bump hit him. It was growing on his back as a small mole. Neil wanted it excised for the same reason anyone would.

“I just wanted it removed because it was ugly,” says the 27-year-old Gainesville, Ga., native. “I didn’t think anything of it.”
But it wasn’t that easy. Gaines learned he had stage 3 melanoma, a type of skin cancer that can be very aggressive and difficult to treat. His bump in the road in 2008 led to a detour with five surgeries, countless injections, and three months in intensive care.

But with the help of his then-fiancée Margaret, a loving family, and Emory oncologist David Lawson, Gaines is thriving today. He and Margaret, now a nurse, married in 2011, and they are committed to raising awareness about melanoma. They also were so happy with the care at Winship that they decided to donate proceeds this year from their annual MelaNoMo fundraiser to Winship.

“Dr. Lawson, Necia, the whole team gave us so much that we want to do all we can to help them find answers to treating other patients,” Gaines says. “We want to raise awareness that skin cancer can be a deadly disease.”

A disease too frequent among the young
Melanoma has a scary reputation. Football fans of a certain age may remember the story of another buoyant young man who faced melanoma with grace and courage. All America quarterback Joe Roth died from melanoma soon after playing his senior year at the University of California, Berkeley. He was three weeks shy of his 22nd birthday. The sports world was stunned that a young man could be completing touchdown passes one month and fighting for his life the next.

Gaines didn’t know the story of Roth or just how serious melanoma can be—until he was diagnosed with it. “It’s just skin cancer,” he thought. “How serious can that be?” But he learned the answer soon enough.

Gaines credits his wife, parents, brother Graham, sister Kelley, and a wide circle of friends for the support that kept him
from growing discouraged during the dark days of his treatment.

Graham Gaines, two years older, says that watching his younger brother go through painful treatments was the hardest thing he has ever been through.

“I just wished I could have traded places with him,” he says.

Tracy Gaines, Neil’s mother, says that keeping her son’s spirits up became a family effort. And she credits her daughter-in-law for standing by her son when other young people might have been unable to handle it.

“But they are so much in love and so happy,” she says, “that it’s just great to see how they’ve made it through this.”

Prevention, early detection, and research are key
One of the ways they have survived is by taking on educational and fundraising efforts. They want to inform other young people of the importance of skin protection; melanoma among younger people has been on the rise at an alarming rate for decades. From 1970 to 2009, the incidence of melanoma increased by eight-fold among young women and four-fold among young men, according to the National Institutes of Health. One reason is sun exposure, but another huge culprit is tanning bed usage, particularly among young, white women.

While Gaines does not know whether sun exposure caused his melanoma, he does know that sun exposure is a risk factor for the disease.

In addition to raising awareness, Gaines and his family also have been holding an annual fundraiser since 2009—while he was still in the middle of treatment—to raise money for research to fight the disease. This year the family decided they wanted the money to stay in Georgia and, more specifically, to go to Winship, where Gaines believes his money will be put to best use.

“Winship has done so much for us, and Dr. Lawson and all of his team couldn’t have been better if I had been their own family,” he says. “And I believe in the work that Winship does. If anyone can find cures for this disease, it will be Dr. Lawson and his team.”

Lawson is one of the nation’s experts in treating melanoma and was co-author of an influential New England Journal of Medicine article in 2011 that shows that vaccine, when combined with Interleukin-2, an immunotherapy drug, improves response rate and progression-free survival. Recently he presented findings at the American Society of Clinical Oncology meeting that stereotactic radiosurgery combined with the melanoma drug, ipilimumab, appears to be safe and associated with an impressive increase in median overall survival in patients with brain metastases from malignant melanoma.

In late 2011, after three difficult years, Gaines received happy news. When he went to see Lawson in November of that year, Lawson was able to tell him: there was no evidence of disease.

A celebration of life, big and small
The MelaNoMo fundraiser for 2012 marked the first one that Gaines was cancer-free. It was an even greater celebration of life because of the arrival of the Gaines’s daughter, six-week-old Annie Kate. Held at the family’s cabin on the banks of the Chattahoochee in Cleveland, Ga., the party drew friends and family, dogs, children playing tag, and a Bluegrass band. Barbecue was plentiful, and the sun sparkled on the water as fall leaves fluttered on the branches of hardwoods lining the river.

It was easy to pick out Neil Gaines among the many guests. He was the one with the widest smile, the brightest eyes, the happiest look. “I’m the luckiest person in the world,” he says. “I wouldn’t be here without Winship.”

The next MelaNoMo fundraiser will be held in October 2013. For more information, check for updates at winshipcancer.emory.edu or melanomo.org

Do you have a story of heroism or kindness about a patient, doctor, nurse, or other staffer at Winship that you’d like to share? Tell us about it for The Winship Way. Send your story to: virginia.l.anderson@emory.edu, or call at 404-778-4580.
Breast cancer research at the Winship Cancer Institute has received an extraordinary boost, thanks to gifts from the Wilbur and Hilda Glenn Family Foundation totaling $10 million. This support funds a center for breast cancer research and treatment.

The gifts name the Glenn Family Breast Center at Winship and will focus on support for the breast cancer program’s research priorities, including funding for investigator-initiated clinical trials, recruitment, and continued support for Glenn Scholars, a program which awards pilot grants to Winship research scientists engaged in high impact breast cancer research.

“We have experienced the uncertainty of this disease, and the Winship Cancer Institute of Emory University helped our family fight back with excellent care at the forefront of medical advances,” says Lou Glenn, vice chair of the Glenn Family Foundation.

“While our gifts target breast cancer, we hope that others will invest in Winship’s research and exceptional care for all types of cancer so many more families can be helped. Just as we benefited from investments made years before we were touched by this disease, we are confident that this investment will help future patients survive and thrive.”

The National Cancer Institute estimates that one of every eight women will be diagnosed with breast cancer. It is the most common cancer diagnosed in women. The Glenn Family Foundation gift will bolster Winship’s cancer biospecimen bank, clinical trials, community access, and multidisciplinary approach to screening and caring for women at high risk for this disease. One research focus is to better understand triple-negative breast cancer, an aggressive form of the disease that disproportionately affects African American women.

“The Glenn Foundation’s generosity will empower the Glenn Family Breast Center at Winship to benefit generations of families in Atlanta, Georgia, and beyond,” says Emory University President James W. Wagner. “Their leadership echoes that of Robert Winship Woodruff, whose philanthropy in honor of his mother’s battle with cancer led to the founding 76 years ago of what became Winship Cancer Institute. We are honored to serve as the destination for patients seeking innovative and individual-
GINA ALESI (LEFT) JOINED THE LAB OF HEMATOLOGIST AND HEMATOLOGY RESEARCHER SUMIN KANG to study the mechanisms behind cancer metastasis. Alesi has a personal connection to cancer, which has motivated her decision to pursue cancer research.
GENERATION NEXT

Who will be the next generation of scientists to continue the fight?

Winship isn’t leaving it to chance.

By Sherry Baker

Cancer researchers dream of a day when conquering cancer is more about prevention and less about trying to outwit cancer cells through treatment that often is difficult. While believing that day will come, researchers also know it could take some time. Many cancers are not the same diseases they were even a few years ago, and new subtypes of cancer continue to develop and confound the search for cures.

To win the fight, Winship leaders have strengthened the offense. In 2011, Winship and the Graduate Division of Biological and Biomedical Sciences (GDBBS) of Emory’s Laney Graduate School started a cancer biology graduate program, in which the next generation of cancer investigators is immersed in cancer biology at a much earlier stage in their education than in years past. It’s another example of the leadership that sets Winship apart, and it shows the heightened emphasis on research that occurs at National Cancer Institute (NCI)-designated cancer centers.
“Our program offers multidisciplinary training dedicated to cancer research in the setting of a comprehensive university that has an NCI-designated cancer center. Very few institutions can offer all three,” says the cancer biology graduate program’s director, Erwin Van Meir.

“Students in our program start their coursework focused on cancer from year one, and they have the freedom to work with any faculty on campus even if those faculty are not members of our graduate program. This early focus and flexibility is a unique feature.”

Cancer research starts with solving the mysteries locked inside a cell: what exactly happens as healthy cells transform from normal to malignant? Why are some cancer cells drug-resistant, while others respond positively to a new treatment? Why and when do cancer cells metastasize, and what processes move cancers into remission?

These are some of the questions that students tackle in the program. What’s more, some scholars are motivated to answer those questions for both scientific and personal reasons.

“In the past year, I have known five people who have been diagnosed with cancer, and only three are still with us,” says second-year graduate student Gina Alesi. “This personal connection to cancer strengthens my resolve to find a cure and is an affirmation of my decision to go into cancer research.”

Before pursuing her PhD in the cancer biology graduate program, Alesi received her undergraduate and master’s degrees in biomedical engineering from the University of Michigan. Last year, she joined the laboratory of Sumin Kang, assistant professor of hematology and medical oncology, to investigate the mechanisms behind cancer metastasis.

“Metastatic tumors are more aggressive than primary tumors, and they account for more than 90% of all cancer deaths. My goal is to determine novel targets and underlying mechanisms in cancer metastasis in order to develop targeted molecular therapies,” says Alesi. “Eventually, I hope to become a professor and lead a research team to make new discoveries about cancer in my own lab.”

That degree of focus and dedication is common to all 16 of the students who are currently in the cancer biology graduate program, now in its second year and in the process of recruiting the third class of PhD candidates to begin matriculation in the fall.

The program includes training in every aspect of cancer research—molecular and cellular biology, genetics, signal transduction (how cells respond to an external stimulus), genetic engineering, nanotechnology, and other disciplines used to understand the development and progression of cancer. The graduate program’s close alliance with Winship is a big draw to students.

Working with Winship

“Since a lot of the cancer biology faculty at Emory are housed in the Winship Cancer Institute, where there is both patient care and research, I knew that I would be able to find research that appealed to me,” says Jasmine Miller-Kleinhenz, another second year student. She has a master’s degree in molecular diagnostic science from the University of North Carolina at Chapel Hill. “Currently, my research will focus on developing targeted therapies for triple negative breast cancer.”

Most of the program faculty are Winship members, including Van Meir, who has focused his work on understanding the molecular basis for human tumor development, especially in the brain and nervous system.

The program is associated with Winship in other key ways, including shared laboratories. Because Winship’s scientific focus groups and the GDBBS programs...
are both interdisciplinary and interdepartmental, cancer biology students learn about biomedical research through seminars offered by those programs.

**Tomorrow’s cancer research leaders**

Jamie King, a first year student, received a bachelor of science in biology from North Carolina Agricultural and Technical State University in Greensboro. “I heard about the graduate programs at Emory when I visited the Annual Biomedical Research Conference for Minority Students conference in 2010. I was conducting research in a cancer lab at my undergraduate institution, so the cancer biology program interested me,” King says.

King’s previous research involved studying health disparities in cancer among African American women. She learned about the specific subtypes of breast cancer and their molecular characteristics, which piqued her interest in other cancer types. Eventually, she’d like to focus her research on breast cancer.

Mary Hope Robinson started on her new career path later, attending college in her mid-30s. A graduate of Georgia State and a wife and mother of three children, Robinson is a first-year student in the program.

“I have always wanted to understand how the human body works, and cancer, with its ability to disobey the rules, is a fascinating and complicated puzzle,” she says. “My dad has been living with prostate cancer for over 25 years and is currently dealing with bone metastasis, so cancer has been a presence in my life since I was a teen. That doesn’t make me unique in any way. I’m not sure there is anyone whose life hasn’t been touched by cancer. But it does help keep the fire lit even in the face of challenging coursework and research.”

Robinson says she feels fortunate to have classes and to participate in research at Winship. “Riding the elevator with patients who could possibly benefit from research we are doing provides important perspective,” she says. “It helps us to remember that there are people on the other side of these concepts we are learning and these cancer cells we are culturing.”

Now that the administrative infrastructure for the program is in place along with the specialized and innovative coursework, Van Meir says the next step is to apply for a training grant and find additional sources of financing that will provide the program with sustainability.

“Our first milestone will be to see the students from our first class graduate. Our longterm goal is to grow into a program with a national reputation for the quality of the training provided and make our students highly sought after by academic and industry labs as well as other career tracks,” says Van Meir.

“We will experiment with our curriculum to ensure the students have the most innovative training possible so that they are prepared for a variety of careers and know how to tackle the diversity of problems that they will encounter in the future.

“Our students will be creative minds, cancer problem-solvers, and innovators who can develop new therapies and translate those findings for clinical applications with patients,” he says.

Van Meir also hopes to nurture investigators who will have passion for their work.

Miller-Kleinhenz already has that passion. “My paternal grandfather died of lung cancer when I was a senior in high school,” she says. “My maternal grandmother had breast cancer, too, but she survived after chemotherapy and a double mastectomy. I think of them whenever things get difficult or I need inspiration. My grandmother told me that she would like me to help find a cure for cancer. I guess her words stuck with me.”

ERWIN VAN MEIR, WHO LEADS THE CANCER BIOLOGY GRADUATE PROGRAM, says the curriculum is preparing students like Josue Moran (center) and David Weir (right) to tackle a variety of careers and a diversity of cancer challenges.
Let the sun shine in

Months of work to remodel Winship’s infusion center have paid off with a much roomier waiting area for patients and a new “skylight.” The skylight is in actuality painted panels that look like a blue sky with clouds. “It brings the outside in,” says Beth Parks, a multiple myeloma survivor from Avondale Estates. “You feel like you’re outside.”

That’s exactly what the designers aimed to do, says architect Gil May of May Architecture and Interiors, the firm that oversaw the re-design of the infusion center and installation of the skylight. Although fluorescent lights are used, they are set to a certain temperature so that the light they emit has a different effect than typical fluorescents.

Renovations to the Infusion Center don’t stop there. The check-in desk in the center of the pre-infusion waiting area was moved. That one change “really opens up the room,” says Rebecca Doolittle, facilities manager for Winship. New, more comfortable flooring was added, along with new comfy furniture in lighter, pastel colors. Older furniture was donated to the nonprofit company, MedShare, which will send the chairs to Africa for use in clinics there.

Patient feedback was essential to the renovation. Doolittle and other Winship leaders spent a great deal of time assessing the recommendations of patients and families to see how best to meet their needs.
Win the Fight 5K counting on team spirit

Runners, walkers, even sleepy-heads can help beat cancer by joining the 2013 Winship Win the Fight 5K on Saturday, October 5, 2013. In three short years, the Winship Cancer Institute’s 5K, a Peachtree Road Race qualifier, has become one of Atlanta’s most popular running events.

Legendary University of Georgia football coach Vince Dooley and his wife Barbara will fire the starting gun and serve as grand marshals for the event. The Dooleys, who are members of Winship’s Advisory Board, understand teamwork and are encouraging a team approach to this year’s race.

“We want to support the research going on right here in Georgia and to do what we can to intensify the fight against a disease that claims more than 14,000 Georgians a year,” says Coach Dooley, who was treated successfully for throat cancer five years ago. “We believe that the best way to help is by supporting the excellent research programs under way at the Winship Cancer Institute.”

Walter J. Curran Jr., executive director of Winship, invites Winship warriors to participate by walking or running, or “our ‘sleep-in warriors’ can hit the snooze button on race day and still donate to the cause and be recognized,” he says.

Curran himself is a lead donor through the “Emo-Rayders,” the official Winship 5K team for Emory’s Department of Radiation Oncology. “It’s not just about asking other people to donate to Winship,” he says. “It’s about walking side by side with the community to make a difference in the fight against cancer.”

Participants can direct their tax-deductible donations to benefit specific cancer research based on personal interests. Funds can be directed to one of 18 different areas.

For more information on the Winship Win the Fight 5K, visit winship5k.emory.edu.
Have a plan.

ANN HASTINGS defines survivor. She beat lung cancer and is in remission from non-Hodgkin’s lymphoma. In the midst of her own battles, she lost her beloved husband, Paul, to bile-duct cancer in 2006.

To keep cancer at bay, Hastings makes bimonthly visits to Winship Cancer Institute, where doctors and staff treat her as family. The warmth, compassion, and expert care she receives at Winship sustain her and have compelled her to make “this little jewel” a beneficiary of her life insurance. “Any way I can, I will give back to fight this horrific disease,” she says.

Learn how you can support Winship in your estate plans. Call the Office of Gift Planning at 404.727.8875, email giftplanning@emory.edu, or visit www.emory.edu/giftplanning.