cancer center
Notes

A Publication for Friends of
Duke Comprehensive Cancer Center

FALL 2006

GENOMIC TEST FOR LUNG CANCER PATIENTS COULD SAVE THOUSANDS

Duke University Medical Center scientists have developed the first-ever genomic test to predict which patients with early-stage lung cancer will need chemotherapy to live and which patients can avoid the toxic regimen of drugs.

The test has the potential to save thousands of lives each year by determining when chemotherapy could benefit patients who are currently advised against it, says the test's developers at the Duke Comprehensive Cancer Center and Duke's Institute for Genome Sciences & Policy.

The test's promising results have initiated a landmark multi-center clinical trial, to be led by Duke investigators next year. Patients with early-stage non-small cell lung cancer, the most common and fatal form of cancer, will receive the genomic test. The results of the tests will determine their treatment.

The new test, called the Lung Metagene Predictor, scans thousands of genes to identify patterns of gene activity in individual tumors that indicate a patient is likely to suffer a recurrence of disease. Recurrent tumors are typically fatal, so identifying at-risk patients is critical to properly treating them, says the Duke researchers.

"Using the unique genomic signatures from each tumor, our new test predicted with up to 90 percent accuracy which early-stage lung cancer patients would suffer a recurrence of their cancer and which patients would not," says Anil Potti, MD, an assistant professor of medicine and lead author of the study. "We now have a tool that can be used to move these high-risk patients from the 'no chemotherapy' group into the aggressive treatment group."

The researchers published their findings in the August 10, 2006, issue of the *New England Journal of Medicine*.

The genomic test can theoretically apply to any cancer, but the Duke team focused its effort on lung cancer because the survival rate for this disease is just 15 percent. Lung cancer now kills more Americans each year than breast, prostate, and colorectal cancers combined. Currently, toxic chemotherapy drugs are prescribed only to patients with relatively large and aggressive tumors.

For early-stage patients—those with small, stationary tumors—the risk of recurrence is low. Hence, they receive surgery but not chemotherapy. The dilemma, says Potti, is that one third or more of these low-risk patients will experience a recurrent tumor.

Joseph Nevins, PhD; Anil Potti, MD; and David Harpole, MD

"Until now, there simply has been no way to identify the 30 to 40 percent of early-stage lung cancer patients who would experience a recurrence," Potti explains. "Now, with our test, we can say with confidence that we can identify this group of patients so they can be treated accordingly."

> "If we can use the test to increase patient survival by even 5 percent, we would save 10,000 lives a year."
>
> DAVID HARPOLE, MD

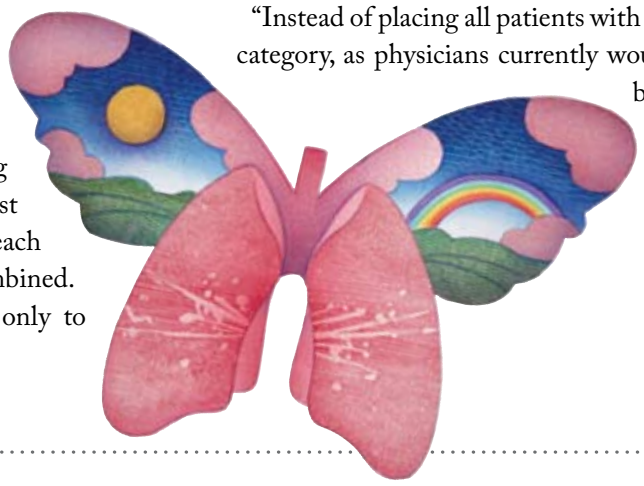
The upcoming trial is the first to use a genomic test to select treatment options for individual lung cancer patients, says David Harpole, MD, a professor of thoracic surgery at Duke and principal investigator of the upcoming clinical trial. The trial, to begin in spring 2007, will enroll more than 1,000 patients at multiple centers in the United States and Canada.

"If we can use the test to increase patient survival by even 5 percent, we would save 10,000 lives a year," Harpole, a Cancer Center member, says.

If proven to be effective in the clinical trial, the test will replace the current method of assessing risk, which is imprecise and provides only a broad estimate of a patient's risk, says Joseph Nevins, PhD, a professor of molecular genetics at Duke, Cancer Center member, and senior author of the study.

Physicians now assign each patient to a clinical "stage" based on the size of the patient's tumor, whether it has invaded lymph nodes and whether it has spread to other organs. They use this staging method to prescribe the best treatment options. But staging parameters are general, at best, and do not accurately define who should receive chemotherapy, Nevins says.

"Instead of placing all patients with small tumors in the same early-stage category, as physicians currently would do, we can now assess their risk based on the tumor's genomic profile," Nevins says. "The current system of 'staging' lung cancer tumors will eventually become obsolete." *



U.S.News AMERICA'S BEST HOSPITALS 2006

The Duke Comprehensive Cancer Center is ranked as one of the top ten hospitals in the country for cancer care, according to *U.S.News & World Report*. Duke has consistently been ranked in the top ten for cancer care for more than a decade.

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FROM THE Director

R. SANDERS WILLIAMS, MD, TO SERVE AS DEAN OF DUKE-NATIONAL UNIVERSITY OF SINGAPORE GRADUATE MEDICAL SCHOOL

Dear Friends,

I recently returned from an eventful trip to Singapore, where I attended a groundbreaking ceremony that marked the beginning of construction for the Duke-National University of Singapore Graduate Medical School, a collaboration between the two institutions aimed at educating future physicians and promoting research in a number of areas including cancer.

The new school is expected to be completed in the summer of 2009 and will include labs, classrooms and administrative offices. The curriculum will be patterned after that of the Duke University School of Medicine. I am pleased to report that R. Sanders Williams, MD, dean of Duke's School of Medicine, will also serve as dean of this new institution and will undoubtedly provide exceptional leadership.

The school is being built on the National University of Singapore's Outram campus and will be adjacent to Singapore General Hospital. Scientists from Duke have already begun to conduct research in Signapore and will be encouraged to continue research collaborations with academic and private research groups in Signapore. The school's areas of research interest will include cancer therapies, genomics, as well as bioinformatics, bioengineering, nanotechnology, and molecular and cell biology.

In another exciting development, Duke's School of Medicine was ranked fifth among the nation's medical schools for National Institutes of Health (NIH) funding in fiscal year 2005. The school received 684 NIH awards totaling $349.8 million. This marks a 14.8 percent increase over the $304.7 million it received in fiscal year 2004, the largest percentage increase of the top 20 medical schools. This ranking demonstrates that even during times of reduced federal funding for research, the faculty at Duke continues to successfully compete for these prestigious grants.

Total NIH funding, as well as the number of research grants per faculty member, is used by *U.S.News & World Report* to determine its annual list of top medical schools. In March, the magazine ranked Duke's medical school sixth, the eighth consecutive year Duke has been rated among the top six research medical schools.

Sincerely,
H. Kim Lyerly, MD · Director

RELIEVING PAIN IN CANCER PATIENTS

Fifty to 70 percent of cancer patients experience pain, whether from their tumor or from treatment received to fight the disease. An even higher percentage of late-stage patients suffer from pain. Perhaps even more alarming are findings from a study conducted by the American Cancer Society which asserts that more than 40 percent of patients do not get adequate relief for their pain.

On October 20, Duke hosted a cancer pain management symposium during which physicians, nurses, and other clinicians discussed the most effective methods for alleviating pain in cancer patients. "The pain that patients feel can impact their mobility and the patient's ability to focus on living—the patient's entire quality of life," explains Amy Abernethy, MD, a Duke oncologist who organized the conference. "In particular, we wanted to focus on improving our ability as physicians to assess and treat a patient's pain so that we could respond most effectively."

"The process of relieving pain should start with the doctor and patient talking about the patient's pain and his or her concerns with treatment," says Frank Keefe, PhD, professor of Psychiatry and Behavioral Sciences at Duke. "Many patients think that pain is a normal part of cancer so they don't tell their doctors." According to Keefe, patients often believe the misconception that they may become addicted to pain killers, when in reality, that rarely happens." Keefe was one of 11 experts who spoke at the conference.

> "Communication is a key aspect in reducing cancer pain. Not just dialogue between the doctor and patient, but also communication among the team of physicians and nurses who treat the patient."
>
> AMY ABERNETHY, MD

Winston Parris, chief of the Division of Pain Management at Duke University Medical Center and a noted expert in the field, also spoke. Parris has served as president of the World Society of Pain Clinicians and president of the American College of Pain Medicine and is author of a popular textbook on cancer pain management.

The conference brought together doctors and nurses from a variety of departments —anesthesiology, surgery, nursing, psychiatry, and radiation oncology—to discuss various ways to help patients feel better during cancer treatment.

"Communication is a key aspect in reducing cancer pain," says Abernethy. "Not just dialogue between the doctor and patient, but also communication among the team of physicians and nurses who treat the patient. Our goal is to hold more conferences like this in the future so that we can continue to improve our care for patients." *

Cancer Center Notes is produced three times a year by Duke Comprehensive Cancer Center; Office of Communications, DUMC 2714, Durham, NC 27710; Phone: 919-684-3560; Fax: 919-684-5653; E-mail: jill.boy@duke.edu

H. Kim Lyerly, MD Director

Karen Cochran Executive Director of Development

Jill Boy Editor

David Elstein Writer
Marla Vacek Broadfoot, Whitney Howell, Becky Levine Contributing Writers

DCCC is a designated Comprehensive Cancer Center by the National Cancer Institute.

Produced by the Office of Creative Services and Marketing Communications

MCOC 4808

SPECTOR JOINS DUKE TO EXPEDITE DISCOVERIES INTO TREATMENTS

Finds success with new drug for breast cancer patients

After spending eight years as the director of Exploratory Medical Sciences in Oncology for GlaxoSmithKline (GSK), one of the largest pharmaceutical companies in the world, Neil Spector, MD, has joined Duke University as the director of the Translational Research in Oncology program. In this role, Spector will help take basic science findings and translate these discoveries into actual drugs for patients.

"Only one out of every 100 drugs makes it from the bench to the market. My goal is to facilitate the development of targeted oncology therapeutics using scientific rationale rather than empiricism."

NEIL SPECTOR, MD

"There are enormous opportunities at Duke," explains Spector. "I came to Duke because there is excellent science being conducted here. There are superior clinical resources at Duke. And Duke has an entrepreneurial spirit, which is critical in drug development."

According to Spector, large pharmaceutical companies have begun to focus primarily on the development and marketing of new drugs as well as the regulatory issues. These companies have traditionally conducted their own research internally, but now have begun to increasingly rely on small biotech companies and academic centers like Duke University to conduct the underlying research for these new drugs.

"Only one out of every 100 drugs makes it from the bench to the market," says Spector. "My goal is to facilitate the development of targeted oncology therapeutics using scientific rationale rather than empiricism." He adds that the challenge is to identify the "right therapy for each patient," the mantra of personalized medicine.

"All companies are working to develop targeted therapies," continues Spector. "This is an extremely difficult and complex process. Scientists must pinpoint drugs for specific tumors."

Physicians must identify patients who are likely to respond to a particular drug. Effective targeted therapies will likely require a combination or "cocktail" of drugs. Often, scientists use existing drugs as targeted therapies, but work is also underway to develop new drugs that are tailored toward specific targets in tumors.

Great progress is being made in determining which patients will respond to what drugs, but much more work must be done. Spector's own research has seen significant success. Currently, he is awaiting FDA approval of the drug lapatinib, a drug that he led the development for in metastatic breast cancer. In a phase II study in which 34 heavily pre-treated women with relapsed or refractory inflammatory breast cancer (IBC)—the most aggressive, lethal form of breast cancer—took lapatinib alone, 62 percent of the patients had a complete or partial response to the treatment.

"IBC affects one to five percent of women in the U.S," explains Spector. "But now that we know lapatinib is an effective targeted therapy for patients with IBC, we can begin to understand why IBC is sensitive to lapatinib and use this knowledge to determine how lapatinib and similar drugs can be used more effectively in breast and other cancers. Using this strategy, we essentially start out with a 'home run,' which then allows us to move faster in bringing new drugs to our patients. Ultimately, that's what we're all trying to do." ❋

Experimental Drug Fights Prostate Cancer

Acting as a genetic Trojan horse, an experimental RNA-based drug—the first of its kind—tricks its way into prostate cancer cells and then springs into action to destroy them, while leaving normal cells unharmed.

In tests in mice with prostate cancer, the drug shrank the size of their tumors by half, while the tumors in control mice that did not receive the drug continued to grow, says study co-author Bruce Sullenger, PhD, director of Duke's Translational Research Institute and chief of the Division of Experimental Surgery. The mice showed no side effects from the treatment.

"In tests in mice with prostate cancer, the drug shrank the tumors by half."

BRUCE SULLENGER, PhD

"This study represents the first step in creating an RNA-based drug for cancer," says lead author James McNamara, PhD a postdoctoral fellow in experimental surgery. "It provides a 'proof of principle' that an entirely RNA-based drug can work with minimal side effects, and it shows it is possible to overcome many of the obstacles that have hampered the development of RNA-based drugs." The study appeared in the August 2006 issue of *Nature Biotechnology*.

The scientists caution that much work remains to move the experimental drug into clinical use in humans. Among the next steps, Sullenger said, is to demonstrate conclusively that the drug can be delivered into the blood stream and still reach the tumor target without being destroyed by the body or causing adverse side effects. ❋

Duke Offers Alternative Post-Mastectomy Breast Reconstruction

Breast cancer survivors who receive a mastectomy have several options for reconstructive surgery including implants or the standard technique of transferring muscle and other tissue from the abdomen to the breast. At Duke, patients have another option: deep inferior epigastric perforator (DIEP) flap surgery, a microsurgical technique that uses skin and fat tissue rather than muscle to recreate a breast that looks and feels natural. Duke University Medical Center is the only institution in North Carolina that offers the procedure.

Michael Zenn, MD

"DIEP flap surgery is a wonderful option for many patients, because it gives them a breast that will age naturally, and the procedure causes far fewer medical problems than other reconstructive methods," says Michael Zenn, MD, an associate professor of plastic and reconstructive surgery. "Plus, the recovery time is faster than what patients experience with the standard abdominal procedure." ❋

First hand

JARED GOLLOB, MD
Melanoma and Kidney Cancer

I'm an oncologist. I also play piano and guitar and sing in a Raleigh-based rock band. I know that the two don't seem to mix, but it works for me. My passion is my patients. Music is my release. Both medical research and musical composition provide me with great creative outlets.

I spend much of my free time writing and recording original rock/blues songs with my band, The JukeDogs, but helping patients is what interests me the most. The focus of my career has changed some in the 20 years or so since getting my undergraduate and medical degrees from Columbia University. However, I've always been interested in trying to solve complex medical and scientific problems.

My grandfather was a cardiologist in Boston for many years, so I was exposed to science and medicine growing up and was always interested in learning more. I was a biology major in college and was hooked on molecular genetics, immunology, and human physiology. I was interested in oncology, but didn't really decide that I wanted to have a career in cancer research and care until I finished my medicine residency at Massachusetts General Hospital. With the Dana-Farber Cancer Institute being close by, it was hard not to be pulled in by the excitement of the clinical and laboratory research in oncology going on there, and so I decided to do a fellowship in medical oncology at Dana-Farber.

During my oncology fellowship, I began doing basic science research in the laboratory focusing on cytokine and lymphocyte biology. For six years, I conducted research examining how interleukin-12 (IL-12) and IL-2, two cytokines important in the stimulation of anticancer immunity, activate human lymphocytes. By the mid 1990s, I was starting to use IL-12 and IL-2 to help patients with advanced melanoma and kidney cancer.

I wanted to better connect my clinical work with my laboratory research, so in 1998 I began working more intensively with kidney cancer and melanoma patients at Beth Israel Deaconess Medical Center in Boston, where I became more involved in the development of clinical trials while also continuing to perform laboratory research.

In 2002, I came to Duke, where I now have my own research lab and my own clinical research program in melanoma and kidney cancer (the Biologic Therapy Program). Here, I have developed new clinical trials for the treatment of melanoma and kidney cancer, and have been studying the biology of melanoma cells in the laboratory in order to find new avenues for treating this aggressive cancer.

> "...it was hard not to be pulled in by the excitement of the clinical and laboratory research in oncology..."

Each week brings me many challenges, but there are also exciting opportunities. Two days a week, I see 20 or so melanoma and kidney cancer patients a day with my physician assistant Elizabeth Miller and research nurse Chris Marino. These appointments are consultations with new patients as well as follow-ups with established patients who are often on clinical trials. Our clinical research program in melanoma and kidney cancer is made possible through the devotion and hard work of our administrative assistant, Sanya Pettiford.

At any given time, about three or four of our patients are in the hospital for a week at a time receiving high-dose IL-2, the only therapy thus far with curative potential for patients with advanced melanoma or kidney cancer. Duke is one of only about 30 places in the country to offer this treatment for melanoma and renal cell cancer patients, and can do so because of the exceptional quality and skills of the nurses and physician assistants.

When I'm not seeing patients, I am collecting and analyzing data from our clinical trials with the help of my research nurse and data manager, Tina Richmond. I also spend time developing clinical trials to test new treatments, as well as planning experiments and interpreting the results with my senior lab analyst, Catherine Sciambi. In addition, I supervise and teach oncology fellows one day a week at the Durham VA Medical Center.

By far, the best part of my job is my work with patients. I—along with the rest of my staff—understand how important it is to take time to talk with our patients about complicated procedures and treatment plans. The best part of my work is developing new treatments that can help patients live productive, fulfilling lives. It's a great feeling to have options to offer patients and to give them hope. *

ELIZABETH MILLER
Physician Associate

I have always been interested in the art of medicine and helping people feel better. That's why I decided to become a physician associate. After getting my bachelor degrees in psychology and biology at Meredith College in Raleigh, I attended Methodist College in Fayetteville, North Carolina, to get my master's degree in Health Science. I did additional training in general oncology at the Medical University of South Carolina in Charleston, graduating in December 2005.

JANE CADDELL

a patient's journey with melanoma

I knew from the first day at Duke there was hope for me…

I grew up in Maine, where cold weather is the norm for most of the year, so getting a good suntan was a challenge. In 1984, I moved to Fayetteville, North Carolina. There, the summers were a lot longer. Eventually, I even started going with co-workers to a tanning salon. I visited the salon regularly for a year-and-a-half.

A year later, in July 2004, a mole appeared on the back of my knee, so I decided to go to a local dermatologist to have it examined. The doctor diagnosed it as malignant melanoma. A week later, I had a wide excision done with a biopsy result of "all borders clear." The surgeon assured me that I had nothing to worry about anymore.

To my surprise, in August 2005 after becoming very ill with what I thought was pneumonia, I was diagnosed with stage IV melanoma. The melanoma had metastasized to both of my lungs, my liver, and my lymph nodes, and possibly to my shoulder and leg bones.

I was so lost when first diagnosed. When you hear the words "stage IV cancer," many things run through your mind. This could kill me. Needless to say, I was whirling and spinning. Thank God my local oncologist immediately referred me to Dr. Jared Gollob at Duke.

Dr. Gollob was like the guy from the TV show "Fantasy Island" saying "Welcome. We have something for you." And was he right! Dr. Gollob told me about treatments that we could try. I knew from that first day at Duke that there was plenty of hope for me and lots of advanced technology that other hospitals did not have that could potentially save my life.

Dr. Gollob suggested treatment with Proleukin, which is a man-made version of a protein called Interleukin-2 that is normally used by the immune system to fight off infection. IL-2 boosts the activity of the immune system and stimulates cells called lymphocytes to seek out and kill cancer cells as well as cells infected by viruses. High doses of IL-2 have been shown to cure some patients with advanced melanoma or kidney cancer.

I agreed to the treatment, which was no walk in the park; it was a grueling intense experience with side effects such as nausea, vomiting, low blood pressure, high heart rate, and thrush in my mouth, a white painful fungus-like substance. I was also delirious. Still, if you asked me if I would do it again, you bet I would—in a minute! In the summer of 2006, my scans can back negative, and Dr. Gollob told me that I was in complete remission. Now, I return to Duke for regular follow-up visits, which I welcome because Dr. Gollob and his staff are wonderful.

Before the diagnosis, I had the average American lifestyle. I was too busy. Now, I live moment-to-moment with a daily appreciation for every aspect of life. I often say to people, "Cancer is the worst thing that has ever happened to me." But truthfully in another way, it is also the best thing that has ever happened to me. The "view" that you get from the other side is spectacular! If I could bottle and sell what cancer can show you and teach you about the value of life without actually having to go through all the trauma, I would truly be a billionaire.

> "Dr. Gollob was like the guy from the TV show 'Fantasy Island' saying 'Welcome. We have something for you.' And was he right! Dr. Gollob told me about treatments that we could try."

My parents, husband, daughter, and friends have been instrumental throughout my battle with cancer. I told them in the very beginning, "Hey, no long faces. I am going to beat this. You all have to keep this faith with me." My family has a great sense of humor, and we found plenty of funny moments to get us through the treatment.

Support groups have been helpful too, and I suggest that anyone battling cancer should join one. A great online group that I visit daily is www.mpip.org for melanoma survivors. It's also really important to find a cancer buddy, someone who has been there, someone who knows and can understand your rawest emotions.

The cancer has impacted me in another positive way. I started a melanoma awareness website called www.operationsunshield.org. I want to be involved in educating young people about melanoma and lobbying politicians to make stronger laws on the tanning industry. So many people think that melanoma is just skin cancer, but it can kill you before you even know you have it. I shudder every time I drive by a tanning facility.

I am here today after a hard battle with stage IV melanoma and have won the battle. I am not sure about the war yet; that is to be determined. Every day, I make sure to put sunscreen on right after I get out of the shower, even if I know I probably won't leave the house. I try to limit my time in the sun, but if I'm not able to, I wear long sleeves, a hat, and sunglasses. I try as much as possible not to let cancer interfere with my life. My life is all about joy. Now, things that used to irritate me, I merely giggle about. ❋

I accepted a job as a physician associate (PA) working with Dr. Gollob in the Biologic Therapy Program at Duke in February 2006, treating patients with melanoma and renal cell carcinoma (kidney cancer). While a lot of Dr. Gollob's time is spent writing and conducting research, my time is mostly spent with our patients.

We see patients together in clinic held Monday afternoons and all day Wednesdays. On non-clinic days, I spend most of my time talking with patients over the phone and completing various administrative tasks. I absolutely love my job and want to continue working in oncology, possibly pediatric oncology sometime down the road.

As much as I enjoy being a PA, I love going home to all my animals. I'm a volunteer with a local animal rescue group, being a foster parent for cats/kittens until permanent homes are found. I've had as many as 10 kittens to care for at a time. In addition, I play rec-league soccer a few nights a week and teach ice skating lessons to young skaters on Saturday mornings. I have a busy life both at work and at home, but I wouldn't want it any other way.

CANCER CENTER
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Writer Brings His Story of Colon Cancer to Duke

Cancer survivor and national magazine writer Curtis Pesmen brought his compelling and inspirational experience of surviving colon cancer to Duke University this summer. Four years ago, Pesmen found out he had stage III colon cancer. "I was given a 60 percent chance of being alive in five years," says Pesman, who passed the five-year anniversary of his diagnosis in December 2005. He urged colon cancer patients to be hopeful.

"There are new treatments being offered today, and you're in one of the best centers for treatment in the world." Sponsored by the Duke Cancer Patient Support Program, Pfizer Oncology, and the Colon Cancer Alliance, the program featured Pesmen as well as Duke's Michael Morse, MD, and Tracy Berger, MS, LMFT. Morse, an associate professor of medicine, is a colon cancer specialist. Berger is a licensed therapist who works with Duke cancer patients and their families as they cope with the impact of cancer on their lives. *

Left to right: Colon cancer survivors Gordon Cole, Minora Sharpe, Maria Smith, Curtis Pesmen, and David Lassiter.

SUMMER ON EDGE INTERNSHIP GETS PERSONAL FOR LOCAL TEEN

Erika Helms, a 17-year-old senior at Millbrook High School in Raleigh, spent her summer working with Amy Abernethy, MD, a member of the Duke Comprehensive Cancer Center and specialist in palliative care. Helms and 20 other high school students from across the Triangle worked with members of the Cancer Center for six weeks as part of the Summer on the Edge program.

Erika Helms and her mother Pam

Summer of the Edge is a paid internship sponsored by the Cancer Center. The goal of the program, which was created in 1989, is to spur interest in cancer research in students early in their lives. The students spend their days in research laboratories and also visit facilities across campus including the Hyperbaric Chamber, the Lemur Center, and the Flow Cytometry laboratory.

Many of the students participate to learn about basic science, while others hope to decide if they should pursue a career in medicine. Helms wants to cure cancer, and her mission is very personal.

"My mom was diagnosed with throat cancer two years ago," explains Helms. "My mom is my best friend, and I don't know what I would do if she died." During her mother's treatment, Helms visited her at Duke and met the doctors who treated her. She saw the hope that the doctors, nurses, and other staff members gave."

"I watched my mother go through a lot of pain, and there was little that could be done to alleviate it," Helms continues. "Dr. Abernethy has a strong program aimed at helping those with patients with pain. I wanted to be a part of that work."

Helm's mother has been in remission for a year and a half. "My mom's diagnosis with cancer brought our family even closer together," Helms says. "We learned to appreciate what we had."

And Helms wants to give back. "I've started to think about where I will go to college, but I already know what I want to be," says Helms. "I want to a pediatric oncologist, because kids should be kids. They shouldn't miss their childhood because of cancer." *

Summer on the Edge is funded by a grant from the Burroughs Wellcome Fund.

EVITA'S CANCER

The silence surrounding cervical cancer a generation ago is giving way to an era of increased communication—and optimism.

Eva Perón—Evita, the powerful first lady of Argentina in the late 1940s and early 1950s, the subject of many myths and a Broadway musical—was never told by her husband or doctors about the cervical cancer that killed her when she was 33. She never even saw the surgeon who operated on her, in secret, to try to save her life.

Paige Anderson also had to face this cancer, but at a different time and in a very different way. In early 2004, the congressional staffer was told she had cervical cancer three days after her doctor first suspected it, as soon as lab tests confirmed the diagnosis. Anderson, who lives in Alexandria, Va., developed a close rapport with her surgeon, gynecologic oncologist Beth Karlan. "I am so grateful to her," says Anderson, now 39. "She gave me options when I thought I didn't have any. I think I'm here today and healthy because of her."

A lot has changed in the world of cervical cancer diagnosis and treatment in the last half century. Secrecy, for one thing. "It was pretty common to conceal a cancer diagnosis in the 1950s. Doctors usually did it in cahoots with a patient's family," says Barron Lerner, an internist and historian at Columbia University who has studied Perón's medical care and death. Doctors, he says, thought the word "cancer" would lead a patient to give up all hope.

But today, secrets have been pushed aside by optimism. The Pap test, now in widespread use in developed countries, has made early detection possible and dramatically raised survival rates. Doctors also understand now that almost all cases of the disease are caused by the human papillomavirus, or HPV. That's led to one big breakthrough earlier this year: the U.S. approval of a simple vaccine against the virus for girls and women between the ages 9 and 26. Three shots in the arm, like flu shots, should provide 100 percent protection from the types of HPV that cause most cancers, according to clinical trial results. "For young women and girls who get the vaccine, it's going to be a whole new world," says Diane Harper, a physician and cervical cancer specialist at Dartmouth Medical School... *(continued online)*

Read the full story in the fall issue of CR *magazine, or visit* CR *online at www.CRmagazine.org and look for the Evita highlight written by* CR *contributor Josh Fischman.* CR *is a new magazine for cancer survivors and everyone who cares for and about them. H. Kim Lyerly, MD, director of the Duke Comprehensive Cancer Center, serves on the editorial board of* CR *magazine.*

GRANT FUNDS RESEARCH COLLABORATION BETWEEN DUKE AND UNC

The Duke Comprehensive Cancer Center and UNC Lineberger Cancer Center have partnered to study individualized treatments for breast cancer patients. The research project will be funded by a $2 million grant from The V Foundation for Cancer Research. The V Foundation was created by ESPN and former NC State University basketball coach Jim Valvano, who died of cancer in 1993. This recent grant was given in honor of Jamie Valvano Howard, Jim Valvano's daughter who was diagnosed with breast cancer in August of 2005. Howard is being treated by P. Kelly Marcom, MD, a breast oncologist at Duke University Medical Center.

> "We hope this project will play a role in shaping how future breast cancer patients will be diagnosed and treated."
>
> NICK VALVANO

The V Foundation grant will further the studies of Duke Comprehensive Cancer Center member Joseph Nevins, PhD, and UNC Lineberger Cancer Center researcher Charles Perou, PhD. Nevins, the Barbara Levine Professor of Breast Cancer Genomics and director of Duke's Institute for Genome Sciences & Policy's Center for Applied Genomics & Technology, is a recognized leader in genetic cancer research. His studies have helped enable physicians to select the most effective anti-cancer drugs for each patient. Perou is an expert in breast cancer research whose work has focused on patients with unlikely prognoses, as well as those with hereditary breast cancers.

Together, researchers at both universities will work to dissect the complexity of breast cancer. The research project will have a common goal of developing strategies for individualized treatment of breast cancer, building on the prior work and advances at both institutions, and developing new programs.

"The V Foundation board of directors decided to establish this grant in honor of Jamie to develop a model program that The V Foundation will be able to replicate throughout the country," says Nick Valvano, CEO of the foundation. "We hope this project will play a role in shaping how future breast cancer patients will be diagnosed and treated."

"Over 13 years ago my father spoke the words, 'We need your help. We need money for research.' These words took on an entirely different meaning when a year ago, at the age of 33, I was diagnosed with breast cancer," says Howard. "Because of my family history, genetic testing was performed and it was discovered that I had inherited a genetic mutation that made me more susceptible to breast cancer, ovarian cancer and many other forms of the disease."

Howard went on to say, "I know without a doubt that cancer research saves lives. I wish I could also say that I inherited my father's courage gene. And yet I could not imagine, when being faced with your own personal battle, having the fortitude and the inspiration to create an organization that would provide hope to so many others. And yet that's just what he did. And his legacy continues on. I'm overwhelmed The V Foundation for Cancer Research has established a research grant in my honor."

Both Duke and UNC have established advanced programs in genetic research in breast cancer. This is the first of what is envisioned as many grants from The V Foundation to bring established groups together to stimulate more rapid advances both in the lab and to the clinic. ✳

New York Outreach Committee Reception

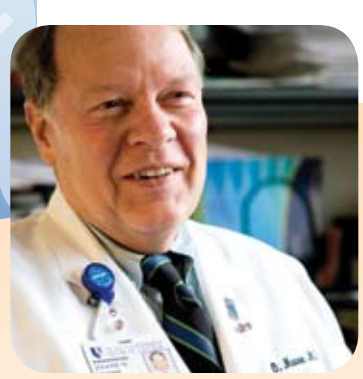
The Duke Comprehensive Cancer Center's New York Outreach Committee hosted a reception at the Rainbow Room in New York City on September 21. More than 100 guests attended the event which featured H. Kim Lyerly, MD, director of the Duke Comprehensive Cancer Center; Henry Friedman, MD, deputy director of The Preston Robert Tisch Brain Tumor Center at Duke; and Neil Spector, MD, director of Duke's Translational Research in Oncology program. Drs. Lyerly, Friedman, and Spector discussed exciting breakthroughs at Duke in cancer treatment and answered questions posed by guests. New York Outreach Committee members include Carolyn Bechtel, Dana Fields, Michael Fields, Jane Goldman, Michel Orban, and Myles Wittenstein.

From left to right: H. Kim Lyerly, MD, director of the Duke Comprehensive Cancer Center; Carolyn Bechtel, a member of the Board of Overseers, and breast cancer survivor Barbara Stansell.

Gail Parkins Memorial Ovarian Walk

Nearly one thousand people including 81 teams joined forces on Saturday, September 30, at the Gail Parkins Memorial Ovarian Awareness Walk in Raleigh, NC, to raise money to fund ovarian cancer research. The event raised $174,575, which will be used by researchers at the Duke Comprehensive Cancer Center to find new ways to diagnose and prevent ovarian cancer. Many, like Lisa Coombs-Martin (pictured), walked to honor or memorialize a loved one. Coombs walked in memory of her mother, Marie B. Coombs, who passed away from ovarian cancer in 1999. To find out more about the event, visit **www.ovarianawareness.org**.

ASK & THE EXPERT



INTERVIEW WITH JOSEPH MOORE, MD

The American Cancer Society estimates that more than 100,000 people will be diagnosed with leukemias or lymphomas in 2006; however, the risk factors and causes of these diseases remain somewhat a mystery. We spoke with Joseph Moore, MD, professor of hematology and oncology with the Duke Comprehensive Cancer Center, about leukemias and lymphomas. Moore, a recognized leader in the treatment of malignant and non-malignant hematological disease, has been at Duke for more than 30 years.

What are leukemia and lymphoma?

Dr. Moore: People often think that leukemia and lymphoma are the names of two types of cancer. Actually, they encompass a diverse group of cancers —liquid tumors that arise from cells in the blood, bone marrow, and the immune system. There are four main types of leukemias: acute lymphocytic (ALL) and acute myeloid (AML) leukemias; and chronic lymphocytic (CLL) and chronic myeloid (CML) leukemias. The acute conditions occur at all ages and usually require immediate and aggressive treatment.

There are two general groups of malignant lymphomas: Hodgkins and non-Hodgkins lymphoma. Non-Hodgkins, which includes approximately 30 different clinical types, can be a misleading and confusing term. There is often a misperception that because it contains the phrase "non," the disease is not as harmful as Hodgkins. On the contrary, non-Hodgkins lymphomas are very serious. They can occur at any age, but the incidences increase with age. In Hodgkins, most of the cases are found in those who are 15-40 years old or those older than 55.

For certain "low-grade" lymphomas and chronic lymphatic leukemia, physicians may choose to observe the patient rather than provide treatment initially. If the cancer progresses then treatment may be administered. When the disease is considered acute, aggressive and immediate medical attention is needed.

Visit **cancer.dukehealth.org** for more information on treatment at Duke for leukemias and lymphomas.

What are the known risk factors?

Dr. Moore: Unfortunately, despite years of research, we still do not know why most people develop these diseases. Some patients develop acute myeloid leukemia because of exposure to chemicals, radon, or even chemotherapy. But these are still only a few of the cases. Future studies will continue to investigate risk factors and determine why some people develop the diseases while others do not. Duke researchers currently are conducting a study involving families in which several members have chronic lymphatic leukemia to determine if there is a genetic or hereditary relationship.

Some patients with lymphomas already have HIV. This is because of a weakened immune system which makes lymphomas more likely to occur. Still, a majority of lymphoma patients do not suffer from another disease. Also, in rare cases, those who had a solid organ transplant (heart, lung, liver, kidney) develop lymphomas because of the suppression of the immune system.

What are the symptoms?

Dr. Moore: A problem with these diseases is that the symptoms are often subtle or non-specific, such as fever, fatigue, and weight loss, and may mimic other conditions. In some chronic leukemias, doctors may just happen to find it during routine blood work in patients with no symptoms. With lymphomas, there are often tumors on the lymph nodes around the body, which may be found during normal physical examinations. Blood and bone marrow tests help to confirm the disease.

What are the available treatments?

Dr. Moore: There are a variety of options to treat these diseases such as chemotherapy, radiation, targeted therapy, surgery, immunotherapy, and bone marrow and stem cell transplantation. Treatments have improved dramatically—the relative five-year survival rate for leukemia has more than tripled in 45 years, going from 14 percent in the early 1960s to nearly 49 percent today. We are not done trying to improve these statistics. Currently, many treatments have begun targeting signaling pathways and actual genetic abnormalities associated with cancer. In the future, I expect will we use more targeted therapies so that we can better attack the cancer with few side effects, both for leukemias and lymphomas as well as for other tumors. Many of these targeted therapies are in development at Duke. ✳

To contact Duke Comprehensive Cancer Center's Office of Development call 919-667-2600.

To make an appointment call 1-888-ASK-DUKE.

For more information visit cancer.duke.edu.