cancer center
Notes

SUMMER 2007

A Publication for Friends of
Duke Comprehensive Cancer Center,
A Comprehensive Cancer Center Designated
by the National Cancer Institute

NEW BREAST CANCER DRUG APPROVED BY FDA

DUKE RESEARCHER LED DEVELOPMENT OF TYKERB

In March 2007, the Food and Drug Administration (FDA) approved the use of Tykerb in combination with the chemotherapy Xeloda for patients with advanced or metastatic breast cancer who have the overexpressed HER2 gene. The drug can be used by women who have not responded to other treatments.

"This is only the beginning," says Neil Spector, MD, director of Translational Research in Oncology at Duke. Before joining Duke, Spector was director of Exploratory Medical Sciences in Oncology at GlaxoSmithKline (GSK), where he led the team that developed Tykerb. "Twenty to twenty-five percent of women with breast cancer have the HER2 overexpressed gene," says Spector. "Tykerb is one of the first oral targeted therapies for solid tumors, and it's likely that this drug will be useful for other cancers as well."

"I almost gave up on treatment," says 49-year-old Kristine Kulowiec, who is being treated by Duke Cancer Center Member and Breast Oncologist Kimberly Blackwell, MD. Her breast cancer was in remission, but it eventually came back and metastasized. Standard treatment did not work for her. In addition, the chemotherapy she was given began making her very sick, and she experienced other serious side effects.

Then, in the fall of 2006, she began taking Tykerb as part of a clinical trial. "Not only did it reduce my tumors quickly, but I have had very few side effects," Kulowiec says. "This winter, I went skiing. That's compared to a year ago when I felt so bad I had to quit working."

While at GSK—and now as colleagues—Spector worked with Blackwell on the clinical trials of Tykerb. "I saw the science and knew that it could work," Blackwell explains. "The clinical trials showed that Tykerb could help women where other treatments had failed."

> The clinical trials showed that Tykerb could help women where other treatments had failed.

In addition to women with the HER2 mutated gene, clinical trials have shown a dramatic response to Tykerb in inflammatory breast cancer (IBC) patients, according to Spector. While not that common in the United States, IBC impacts women in other countries. The five-year survival rate for women with IBC is much lower than other types of breast cancer. Recently, the Sisko Foundation donated $10,000 to fund Spector's continued research on Tykerb. *


Neil Spector, MD

Duke Plans New Cancer Building

This spring, leaders of the Duke University Health System announced Duke's plans to construct a new building dedicated solely to cancer patients. This expansion will accommodate the growing number of patients seeking treatment for cancer at Duke. The new center will be built above and adjacent to the current Morris Cancer Clinics. A total of more than 300,000 square feet will be dedicated to cancer services and will include clinical examining rooms, radiation oncology services, a chemotherapy treatment center, and clinical research facilities.

"The Morris Cancer Clinics, which were named in honor of benefactors Edwin and Mary Morris, have served our patients well for many years," says Kevin Sowers, chief operating officer of Duke University Hospital. "We are simply growing out of our existing space. Our goal is to always put the patient first by providing a seamless continuum of care and aligning specialties, and this new facility will allow us to do that even better."

In 2006, Duke had nearly 9,000 inpatients and 175,000 outpatient encounters including 100-120 patients who receive chemotherapy each day at the current facility. The number of cancer outpatient encounters at Duke grew nine percent from 2005, and statistics reveal an expected 21 percent growth in new cancer cases in the Raleigh-Durham area and a 13 percent increase in cancer cases in North Carolina between 2005 and 2010.

The new building will provide space to increase the number of linear accelerators used for radiation therapy from five to approximately nine. The number of exam rooms is expected to increase from 69 to approximately 130, and the number of infusion bays is expected to more than double.

"We have applied for a Certificate of Need from the state of North Carolina, which will allow us to begin the formal planning process," continues Sowers. "The next step is to conduct focus groups with our practitioners, patients and board members to determine their needs and desires to ensure that we provide the most positive patient-centric experience."

The planning process includes mapping the cancer patient experience at Duke. "By thoroughly understanding the path of our patients from the first appointment, through treatment and beyond, we hope to construct this new facility in a way that makes that journey easier for them," explains Sowers. "That means creating a healing environment in which patients have convenient access to treatment areas and support services."

"We are committed to continuing Duke's strong tradition of excellence in cancer care," said Sowers. "As one of only 39 cancer centers nationwide designated as comprehensive by the National Cancer Institute, Duke has the rare ability to translate laboratory discoveries into new treatments; provide access to clinical trials; provide support, advocacy and patient education to our patients; and reach out to communities across the southeast to provide superior multidisciplinary care." Multidisciplinary care is a term used to describe a team approach to treatment, with multiple specialists including surgeons, radiation oncologists, and medical oncologists working with the patient to determine the most effective course of treatment.

In February of 2008, an application for a second Certificate of Need will be submitted to the state requesting permission to begin construction on the new facility. Duke leaders anticipate that construction will begin in the summer of 2008 and expect the new facility to be completed in approximately three years. *

Duke Comprehensive Cancer Center
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FROM THE Director

CANCER DEATHS DECLINE FOR SECOND CONSECUTIVE YEAR

Dear Friends,

Earlier this year, the American Cancer Society (ACS) reported that fewer people are dying of cancer. The report indicated that the most recent statistics show more than 3,000 fewer deaths in 2004 than in 2003. From 2002 to 2003, the ACS reported a decline of 369 deaths.

In April, a report in the *New England Journal of Medicine* revealed that the incidence in breast cancer in the United States had dropped steadily since the 1990s and had significantly decreased since 2003. Researchers attributed the most recent decrease to the drop in the use of hormone replacement therapy (HRT) since 2002.

Death rates from prostate and colorectal cancer are also declining, according the ACS report. These statistics are very encouraging and give us hope that the efforts to improve early diagnosis, to help people quit smoking and to improve exercise and nutrition lifestyles have all been of great value to our society. As well, research breakthroughs at Duke and around the world have enabled physicians to treat cancer patients more effectively. Personalized care is no longer just a buzz word—it is a real technique developed at Duke in which patients are prescribed therapies based on the genetic signature of their own tumor.

Still, statistics from the Centers for Disease Control and Prevention show that cancer continues to be the leading cause of loss of productive years of life. The ACS report indicates that lung cancer is still the leading cancer killer among men and women and that African Americans are still much more likely than any other group to develop cancer. African Americans also have a higher mortality rate from cancer than other populations.

At the Duke Comprehensive Cancer Center, our work goes on, leading the effort to decrease the deaths from cancer even further and to support the more than 10 million cancer survivors. I appreciate the efforts of our Cancer Center members and am grateful to each and every friend of the Cancer Center for their support of our work. Together, we continue to make a difference.

Sincerely,
H. Kim Lyerly, MD · Director

DUKE RALEIGH HOSPITAL OFFERS ADVANCED CANCER SERVICES

Duke Raleigh Hospital is a member of the Duke University Health System, serving residents in Raleigh, North Carolina, and surrounding communities. "We are proud to be a part of Duke Medicine," says Duke Raleigh Hospital CEO Doug Vinsel. "As such, we are able to provide our patients with the highest quality diagnostic, therapeutic, rehabilitation, prevention, support, and health education services available."

Vinsel recently named Michael Spiritos, MD, a medical oncologist with a special interest in breast cancer, as director of Cancer Clinical Services at Duke Raleigh Hospital. Spiritos, who has spent the last 17 years treating cancer patients in a 600-bed community hospital in Philadelphia, will begin work on July 3.

"I am thrilled to be joining Duke Raleigh Hospital and Cancer Center," says Spiritos. "I know of no other relationship like this where you find a community hospital that has such close connections with a nationally recognized medical center."

As partners with the Duke Comprehensive Cancer Center, one of only 39 centers in the nation designated by the National Cancer Institute, Duke Raleigh Hospital has access to resources that make it unique among other community hospitals.

"Our patients have access to national and Duke-generated clinical trials which provide the most innovative therapies for cancer," says Vinsel. "And because of our connection with Duke, we are able to attract top oncologists like Dr. Spiritos, as well as lung cancer specialist Dr. David White and surgical oncologist Dr. Yale Podnos."

> "We have the ability to be all things to all people because we combine access to research and the nationally renowned expertise of a top-ten cancer hospital with the convenient, friendly feeling of a community hospital. That's what sets us apart."
> MICHAEL SPIRITOS, MD

Duke Raleigh Cancer Center offers patients a multidisciplinary approach to care which enables them to meet with a team of physicians that includes surgeons, and medical and radiation oncologists. The team then works together to determine the most effective course of treatment. Patients are provided a full spectrum of cancer services including diagnostic imaging, chemotherapy, radiation therapy, as well as supportive services. Patient navigators are available to assist patients as they receive treatment.

"My expectation is that the Duke Raleigh Cancer Center will continue to grow and expand, adding new physicians and continuing to provide the most advanced treatments," says Spiritos. "We have the ability to be all things to all people because we combine access to research and the nationally renowned expertise of a top-ten cancer hospital with the convenient, friendly feeling of a community hospital. That's what sets us apart." *

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RESEARCH Notes

CANCER DRUG EXTENDS SURVIVAL IN PATIENTS WITH DEADLY BRAIN TUMORS

Avastin, a drug already used to treat colon cancer and lung cancer, has now been shown to slow the growth of gliomas, the most common and deadly form of brain cancer, a pilot study conducted at Duke University Medical Center has found.

The study marks the first time that Avastin has been tested against brain tumors. The drug, whose chemical name is bevacizumab, shrinks cancerous tumors by cutting off their blood supply. In 2003, a national clinical trial led by Duke researchers was the first to show the effectiveness of this anti-angiogenisis drug in colon cancer.

In this more recent study, researchers at Duke tested the effectiveness of Avastin in conjunction with a standard chemotherapy agent in patients with recurrent cancerous brain tumors called gliomas. They found that the two drugs together halted tumor growth up to twice as long as comparative therapies. Though gliomas remain incurable in nearly all cases, the combined drug therapy may buy precious time and preserve physical and mental function longer for patients facing this diagnosis, the researchers say.

"These results are exciting because of the possible implications for a patient population that currently has the poorest possible prognosis going into treatment, those with malignant brain tumors that have recurred after initial treatment," says Cancer Center Member James Vredenburgh, MD, a brain cancer specialist at Duke's Preston Robert Tisch Brain Tumor Center and lead researcher on the study.

The findings appeared in the journal *Clinical Cancer Research*. The study was funded by the National Institutes of Health, the Preston Robert Tisch Brain Tumor Research Fund, the Bryan Cless Research Fund and Genentech, the maker of Avastin. *

"These results are exciting because of the possible implications for a patient population that currently has the poorest possible prognosis going into treatment..."
JAMES VREDENBURGH, MD

Genomic Tests Predict the Most Effective Treatment for Ovarian Cancer Patients

In research published in the February 10, 2007, issue of the *Journal of Clinical Oncology*, scientists at the Duke Comprehensive Cancer Center and Duke's Institute for Genome Sciences & Policy, led by Holly Dressman, PhD, associate research professor, reported that genomic tests were able to successfully identify patients with ovarian cancer who were likely to be resistant to standard chemotherapy. The tests were 80 percent accurate.

According to Dressman, these tests enable physicians to determine which treatments will be most effective in individual cases, thereby saving patients from exposure to ineffective treatments that often come with serious side effects. These are the same type of genomic tests that scientists at the Duke Comprehensive Cancer Center and Duke's Institute for Genome Sciences & Policy have developed to determine which chemotherapy will be most effective in individual lung cancer patients.

Holly Dressman, PhD

These tests enable physicians to determine which treatments will be most effective in individual cases.

"It's all about individualized therapies," explains Andrew Berchuck, MD, a co-investigator in the study and director of the division of gynecologic oncology at Duke. "Chemotherapy will likely continue to be the first-line of therapy for ovarian patients, but this new data suggests that in the future we may be able to more effectively select the most effective chemotherapy treatment based on each patient's genomic profile."

Duke researchers have already begun clinical trials using similar genomic tests to guide chemotherapy use in lung cancer, and plan to initiate a clinical trial in breast cancer within the next few months. It is anticipated that similar studies in ovarian cancer will begin later this year.

Other researchers participating in the study included Gina Chan; Jun Zhai; Andrew Bild, PhD; Robyn Sayer, MD; Janiel Cragun, MD; Jennifer Clarke, PhD; Regina S. Whitaker; Hua Li, PhD; Johnathan Gray, PhD; Jeffrey Marks, PhD; Geoffrey Ginsburg, MD, PhD; Anil Potti, MD; Mike West, PhD; Joseph Nevins, PhD; and Johnathan Lancaster, MD, PhD. *

Minimally Invasive Lung Cancer Surgery Can Improve Chemotherapy Outcomes

Patients who undergo a minimally invasive lung cancer surgery called thoracoscopic lobectomy may derive more benefit from the chemotherapy that follows, according to Duke University Medical Center researchers. These patients also have shorter hospital stays and accelerated recovery time compared with patients who have their tumors removed using the traditional surgical approach that involves opening the chest.

"This study showed that patients who had the minimally invasive operation were less likely to experience delays in receiving chemotherapy or a reduction in the amount of chemotherapy we were able to give," says Duke Comprehensive Cancer Center Member Thomas D'Amico, MD, a lung surgeon and senior investigator on the study. "Chemotherapy after surgery has been shown to improve survival in lung cancer patients, so the more effectively we deliver that chemotherapy, the better."

Thomas D'Amico, MD

Thoracoscopic lobectomy is performed through two or three small incisions in the side of the chest. Surgeons insert a camera through one of the incisions and view the inside of the chest on a video screen, while manipulating instruments through the other incisions to remove the tumors. Open surgery to remove lung tumors—called thoracotomy—requires surgeons to make larger incisions and spread or cut the ribs in order to access the patient's lungs.

Doctors have been using thoracoscopic lobectomy as a surgical alternative for approximately 15 years; it can be an option for patients with non-small cell lung cancer, which is the most common type of lung cancer, making up 85 percent of all cases. The technique is most successful in patients whose tumors are less than six centimeters in size, D'Amico says.

The study was published in the *Annals of Thoracic Surgery*. Other researchers in the study were Rebecca Petersen, MD, the lead investigator on the study; DuyKhanh Pham, MD; William Burfeind, MD; Steven Hanish, MD; Eric Toloza, MD, PhD; and David Harpole, MD. *

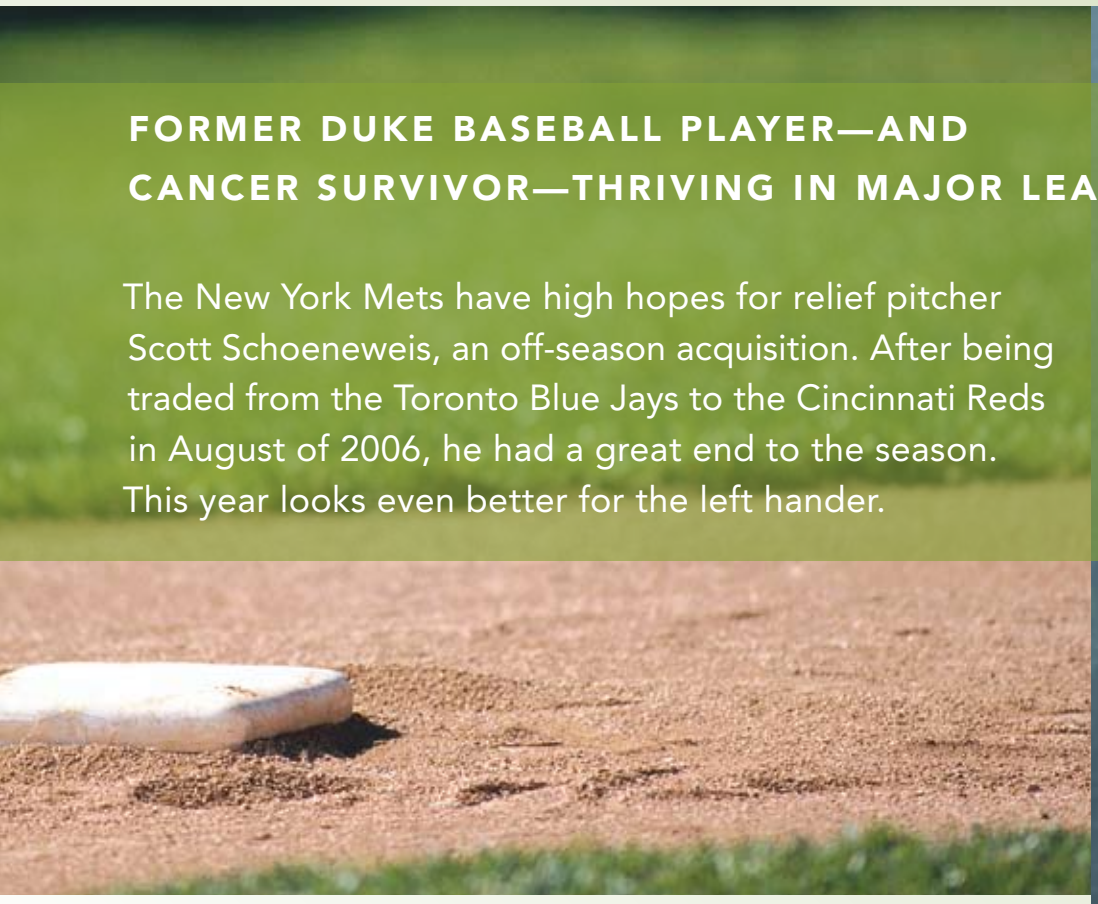
SURVIVING & THRIVING

SPONSORED BY THE CITIZENS ADVISORY COUNCIL

The Citizens Advisory Council is the longest standing volunteer group at the Cancer Center. For more than 30 years, the group of volunteers has supported the mission of the Cancer Center through advocacy and personal philanthropy.

FORMER DUKE BASEBALL PLAYER—AND CANCER SURVIVOR—THRIVING IN MAJOR LEAGUES

The New York Mets have high hopes for relief pitcher Scott Schoeneweis, an off-season acquisition. After being traded from the Toronto Blue Jays to the Cincinnati Reds in August of 2006, he had a great end to the season. This year looks even better for the left hander.



MARC S. LEVINE/NY METS

Life for Schoeneweis (pronounced SHOWN-wice) seems far removed from that of a cancer patient. Still, his diagnosis of testicular cancer in 1993 as a freshman at Duke made an impact on him that reverberates today.

"As a college student, I felt invincible," says Schoeneweis. "But in a moment's notice, everything changed."

> "I worried about my health and about my life. But I remember that even with the effects of chemotherapy, I wanted to pitch again soon." SCOTT SCHOENEWEIS

During a routine physical exam before his sophomore year, the baseball team's physician felt a lump on one of Schoeneweis' testicles. After further tests, Duke urologist and Duke Comprehensive Cancer Center Member Cary Robertson, MD, diagnosed Schoeneweis with testicular cancer. The cancer had spread to the lymph nodes in his pelvis.

Testicular cancer is rare, only accounting for approximately one percent of the cancers in men. Unlike many types of cancer, men who have testicular cancer are usually relatively young—usually between 20 and 39 years old. Testicular cancer, especially if diagnosed early, can usually be treated successfully, with more than 95 percent of men cured.

"I recall his parents and coach in the waiting room very concerned about Scott and what was going to be done next," says Robertson, who remembers the situation very well. Schoeneweis underwent surgery at Duke to remove the cancerous testicle and then received chemotherapy, which was the standard course of treatment at the time.

"In the last 15 years or so, there has been a stronger interest in using chemotherapy as the primary therapy and not perform surgery as often," explains Robertson. "However, in early-stage testicular cancer, surgery, chemotherapy, and even surveillance should all be discussed as options for men to consider." Robertson is a member of a National Comprehensive Cancer Network's Clinical Practice Guideline panel for testicular cancer, which advises oncologists on treatments for testicular cancer patients.

"I worried about my health and about my life," says Schoeneweis. "But I remember that even with the effects of chemotherapy, I wanted to pitch again soon."

Schoeneweis came back to pitch—but not at full strength—for much of his sophomore season. "Considering the circumstances, Scott had a very good year," says Steve Traylor, the head coach for Duke's baseball team at that time. Then Schoeneweis blew out his elbow, forcing him to get surgery and spend more time away from baseball. These two circumstances might have ended some careers, but not Schoeneweis'. He was not going to be denied and never had a "pity party," according to Traylor.

Schoeneweis struggled on the field during his junior year, but things were different during his senior season. The promise that he showed during his freshman

WHAT IS TESTICULAR CANCER?

- Testicular cancer is usually discovered by a self-exam or by a physician during a routine physical examination. A lump on a testicle or pain requires further testing whether through blood tests, ultrasound, or a biopsy. Since the size of the tumor doubles every 30 days, it is important to see a physician promptly.
- Treatment options include surgery, chemotherapy, and radiation therapy.
- Testicular cancer, especially if diagnosed early, can usually be treated successfully, with more than 95 percent of men cured.
- While treatments are usually effective, one side effect is sterility so patients are given the option to preserve the sperm if they intend on having children eventually.
- Even after treatment, survivors still need regular blood tests and x-rays to make sure the cancer has not returned.
- There are no risk factors per se in developing testicular cancer. White men are more likely than any other race to get testicular cancer. Also, those men who have an undescended testicle have increased risks, and those with a family history of the disease.

* Duke has a long heritage of providing excellent care to men with testicular cancer and has made significant contributions to research in this area.

✶ **Schoeneweis will be the guest of honor at the New York City Outreach Event** benefiting the Duke Comprehensive Cancer Center, scheduled for September 27, 2007, at the Waldorf Astoria in New York. For tickets and information about the event, please call Doreen Matters at 919-667-2616 or go to www.cancer.duke.edu/nycoutreach.

year returned and he won 10 games. His 90 mile per hour fastballs re-emerged. Even with all the obstacles, Schoeneweis has a lifetime ranking of first for wins and starts, and is second for strikeouts at Duke. After his senior season, he was drafted in the third round by the California Angels, the highest draft pick for a Blue Devil in 20 years.

It has been nearly 14 years since his diagnosis, and today Schoeneweis is totally healthy. "I feel perfect, and I've been fine since leaving Duke," he says from the locker room of the Mets, where he recently signed a reported three-year, almost $11 million contract to work in the bullpen.

Since graduating from Duke in 1996 with a history degree, Schoeneweis has had a successful major league career, playing on five different teams, and winning the World Series with the Angels in 2002. "While winning the World Series was great, I was always worried that I would never be able to have children," he says. "It's great seeing my kids grow." Schoeneweis is married and has three children.

Schoeneweis admits that he's always had a good work ethic, but to get through the cancer and chemotherapy he had to work even harder. "While it's not the easiest thing to do, you need to stay positive and be optimistic," the 33-year-old Schoenewewis says. "Let the drugs do their thing, and you can't give up. You can't give up on your life." *

CARY N. ROBERTSON, MD, FACS

Member, Duke Comprehensive Cancer Center
Associate Professor, Department of Surgery, Division of Urology

CLINICAL INTERESTS:

Urologic and testicular oncology, robotic assisted laparoscopic radial prostatectomy, high intensity focused ultrasound therapy of prostate cancer, renal cell cancer, partial nephrectomy

RESEARCH INTERESTS:

1. High Intensity Focused Ultrasound Therapy of Prostate Cancer
2. Surgical Technique Improvement in Prostate Cancer
3. Clinical Predictors of Outcome in Prostate Cancer
4. Molecular Imaging and Genomics of Genitourinary Malignancies
5. Quality of Life measures in Genitourinary Malignancies

HIGHLIGHT:

- Founded Duke University Medical Center's annual free prostate cancer screening clinic in 1990. In 2006, more than 550 men participated.

TRAINING:

- MD, Tulane School of Medicine, Louisiana, 1977

RESIDENCY:

- Surgery, University of Oregon Health Sciences Center, Oregon, 1977-78
- Surgery, Duke University Medical Center, North Carolina, 1980-81
- Urologic Surgery, Duke University Medical Center, North Carolina, 1981-85
- National Cancer Institute, National Institutes of Health, Maryland, 1985-88

CANCER CENTER Notes

DUKE CANCER CENTER PARTNERS WITH PEKING UNIVERSITY

The Duke Comprehensive Cancer Center and Peking University have signed a Memorandum of Understanding (MOU) outlining future partnerships between the two institutions.

"We are very excited about the opportunity to collaborate with Peking University," says Duke Comprehensive Cancer Center Director H. Kim Lyerly, MD. "We are all working toward the same goal—to eradicate cancer—and through this partnership we can share knowledge and resources that will lead us closer to achieving that goal."

A delegation of leaders from Peking University Health Science Center visited Duke University for more than a week in April, touring facilities including Duke's radiation oncology department, the outpatient chemotherapy treatment center, and the Bone Marrow and Stem Cell Transplant Program. The delegation, included Wei-cheng You, MD, director and president of Peking University School of Oncology, Beijing Institute for Cancer Research, and Beijing Cancer Hospital; and Jun Ren, MD, PhD, chairman of the division of medical oncology at Peking University School of Oncology.

In March, Lyerly and Duke Comprehensive Cancer Center Member Wei Chen, PhD, visited Beijing and met with oncologists and health care leaders there. Duke University leaders have been talking with Peking leaders for the past 10 years about collaborations; the signing of the MOU solidifies a formal partnership with the Duke Comprehensive Cancer Center.

"We have already begun to discuss ways in which we can immediately see an impact," continues Lyerly. "Our hope is to create an atmosphere in which Duke Cancer Center members are teaming with Peking University scientists to develop prevention and diagnostic tools as well as novel therapies that will benefit the people of China, people in the United States, and populations all over the world." ✳

From left to right: Jun Ren, MD, PhD; Wei-cheng You, MD; H. Kim Lyerly, MD; and Wei Chen, PhD.

Pictured are Dwight Randle, PhD; Vernal Branch, a cancer survivor who serves on the National Cancer Institute's Director's Consumer Liaison Group, and H. Kim Lyerly, MD, director of the Duke Comprehensive Cancer Center.

Patient Advocacy Conference

How does one become an advocate for cancer patients? Patient advocacy includes lobbying legislators, speaking to church groups, getting involved in community advocacy groups who are working to educate the public about the needs of cancer patients and the need for changes in policies that affect cancer patients.

On April 21, the Duke Comprehensive Cancer Center in partnership with cancer patient advocacy groups Sister's Network and Women Helping Women hosted its first Patient Advocacy Conference at the Durham Marriott and Civic Center. The conference attracted professional advocates, cancer survivors and caregivers who attended breakout sessions which focused on advocacy in the community, advocating for survivors, and research advocacy. "Patient advocates shape the direction of research," said Dwight Randle, PhD, senior scientific advisor for the Susan G. Komen for the Cure and keynote speaker at the conference. "We have seen the National Institutes of Health change their funding plans because of the voices of advocates." Attendees of the conference are working to establish a Triangle Cancer Advocacy Network. "We want to encourage others to become active advocates for cancer patients," says Patty Spears, a cancer survivor, patient advocate, and lead organizer of the event. "This was a great first step, but there is much more work to be done."

For more information about the Triangle Cancer Advocacy Network, write to paspears@nc.rr.com.

DUKE AND UNC CO-HOST CONFERENCE ON STEM CELLS

This spring researchers from Duke University and the University of North Carolina at Chapel Hill co-hosted the Triangle Stem Cell Symposium which brought together more than 200 scientists from across the state to discuss recent research findings and to develop collaborative projects to continue the investigation of stem cells and their benefits in medicine.

Tannishtha Reya, PhD

Brigid Hogan, PhD

"Stem cells are cells in the body that have the ability to make a variety of different cells as well as to renew themselves," says Tannishtha Reya, PhD, one of the organizers of the conference. Reya is an assistant professor of pharmacology and cancer biology and co-director of the Duke Comprehensive Cancer Center's Organogenesis & Stem Cell Biology Research Program.

Stem cells are at the core of regenerative medicine and hold great promise in tissue regeneration, organ repair, and treatment of aging-related diseases. Regenerative medicine assists the natural healing process and is used to regrow missing or damaged tissue. Stem cell research has direct implications for cancer research. Duke researchers are also using stem cell transplantation when treatments such as radiation and chemotherapy destroy cells.

"The mission of the Duke Stem Cell Research Program is to advance our understanding of the basic science of stem cells and to promote their application in the clinic to help save lives and reduce suffering," explains Brigid Hogan, PhD, professor and chair of cell biology and co-director of the Duke Comprehensive Cancer Center's Organogenesis & Stem Cell Biology Research Program.

More than 30 Duke faculty members are part of the Cancer Center's Organogenesis & Stem Cell Biology Research Program. Several members of the program spoke at the conference including Reya; Hogan; Duke University Chancellor for Health Affairs Victor Dzau, MD; Nelson Chao, MD; Joanne Kurtzberg, MD; John Chute, MD; Terry Lechler, PhD; Jeremy Rich, MD; Page Anderson, MD; Rob Wechsler-Reya, PhD; and Ken Poss, PhD. ✳

FAMILY CREATES RESEARCH FELLOWSHIP IN HONOR OF SON

This spring, Wally and Marilyn Schlessel of Palm Beach, Florida, with a gift of $50,000 to the Duke Comprehensive Cancer Center, created the Howard Evan Schlessel Resident Research Fellowship in memory of their son. The funds will be used to support the work of head and neck surgeon Ramon Esclamado, MD, chief of otolaryngology (ear, nose, and throat) at Duke University Medical Center and director of Duke's head and neck cancer residency program.

"Dr. Esclamado has been so great to me that I wanted to make a gift to show him my appreciation," says Mr. Schlessel, who is currently being treated by Esclamado for melanoma of the lip.

As a leader at Duke in the education and training of resident physicians in head and neck surgery, one of Esclamado's top priorities is to increase the number of residents in the training program and to increase the length of residency training.

"Research training is a critical part of our mission to train the future academic leaders in our field of otolaryngology head and neck surgery," says Esclamado. "The Schlessel gift provides important funds that will allow Duke to begin to fully fund a resident research endowment. I am most indebted to Mr. and Mrs. Schlessel for their generosity and their commitment to providing outstanding training to future head and neck specialists."

The Schlessels were welcomed onto the Duke Comprehensive Cancer Center's Board of Overseers in April. ❋

From left to right: Marilyn and Wally Schlessel, and Ramon Esclamado, MD

Angels Among Us Raises More Than $1 Million for Brain Tumor Research

Brain tumor researchers and physicians John Sampson, MD; Darell Bigner, MD, PhD; Alan Friedman, MD; and Henry Friedmen, MD, accept the check for more than $1.06 million.

On April 28, the 14th annual Angels Among Us 5K and Family Fun Walk at Duke's Wallace Wade Stadium broke all previous records by raising more than $1.06 million to benefit The Preston Robert Tisch Brain Tumor Center at Duke.

Nearly 900 runners participated in the 5K, while more than 2,000 participated in the Family Fun Walk. One hundred and forty-one teams from across the country turned out to walk and run in honor and in memory of loved ones who have and continue to battle brain tumors. The top fundraising team was Team MTV—Building the Cure, which raised $168,396.

Runner Raises Money in Honor of Duke Golf Coach

Leslie Barnes has competed in three marathons and two Ironman triathlons. But the April 16, 2007, Boston Marathon was different. This time, she was running to raise money to support research at the Duke Comprehensive Cancer Center and to honor Duke University's long-time golf coach Rod Myers, who passed away from leukemia shortly before the marathon.

Barnes joined Duke in August 2006 as director of student athlete development, and Coach Myers quickly made an impression on her. "I work with many of Duke's student athletes, and I saw what a great mentor Coach Myers was to his players and how much the players cared about him," says Barnes. Myers was the golf coach at Duke for 34 years.

The Cancer Center received nearly $4,000 in memory of Myers.

"I had to dig deep in the last 1000 meters…, but I used Coach Myers' motto 'Kick butt and take names' to keep me going," says Barnes. "The race was secondary. I just wanted to raise money and awareness so we can kick cancer's butt."

Awards Presented to Top Cancer Researchers

Timothy C. Hallstrom, PhD, a postdoctoral fellow at the Duke Institute for Genome Sciences & Policy, is the 2007 **Robert M. and Barbara R. Bell Basic Science of Cancer Award** recipient. The award was endowed by Robert M. Bell, PhD, former chair of the department of molecular cancer biology at Duke and former deputy director and acting director of the Cancer Center, and his wife, Barbara. Hallstrom was recognized for his research findings regarding the relationship between cell proliferation and cell fate.

Robert J. Wechsler-Reya, PhD, assistant professor of pharmacology and cancer biology, is the 2007 winner of the **W.K. Joklik Award for Excellence in Cancer Research**. The award, given in honor of Wolfgang (Bill) Joklik, DPhil, co-founder of the Duke Comprehensive Cancer Center, recognizes Wechsler-Reya's research of medulloblastoma, a childhood brain tumor, and other brain tumors.

Amy P. Abernethy, MD, assistant professor of medicine-oncology, is the 2007 winner of the **Malek Cancer Research Scientist Award**. The award was established by Marlene and Frederic Malek to recognize a promising cancer investigator. Abernethy is a clinical oncologist whose research interests include improving the quality of patients' lives through enhanced communication between oncologists and their patients.

David Reardon, MD, associate professor of surgery, is the 2007 winner of the **R. Wayne Rundles, MD, Award for Excellence in Cancer Research**. Rundles, a pioneer in chemotherapy, served as chief of hematology/oncology at Duke University Hospital. Reardon is an oncologist specializing in the care of brain tumor patients. His research focuses on the discovery of new therapies for brain tumors.

Anil Potti, MD, assistant professor of medicine, is the 2007 winner of the **Lisa Stafford Memorial Award**. The Stafford Award was established as a memorial to Lisa Stafford by her parents Jack and Deta Stafford. Potti's groundbreaking research focuses on using genomics to provide the most effective therapy for each individual patient.

ASK THE EXPERT

INTERVIEW WITH PHILIP FEBBO, MD

Within a week of each other in late March, Elizabeth Edwards, wife of presidential candidate John Edwards, and White House Spokesman Tony Snow, announced that their cancers, which had been in remission, had returned and metastasized to other parts of their bodies. We spoke with Philip Febbo, MD, an oncologist and cancer researcher at the Duke Comprehensive Cancer Center and the Institute for Genome Sciences & Policy at Duke, about metastatic cancer.

What does metastasis mean?

Dr. Febbo: Let's talk first about primary cancer. This refers to the organ or tissue where the first cancer cells develop. Cancer can begin at almost any site and is generally classified based upon its location (prostate, breast, lung, colon, etc.).

Metastasis is used to describe the spread of cancer cells from the primary cancer to another location. In order to metastasize, a cancer cell has to develop several abilities. It must be able to move through tissue. It must be able to enter either the circulatory or lymphatic vessels. It must be able to exit these vessels. And finally, the cancer cell must be able to survive and divide in a foreign environment—the site of metastasis. During this process, the metastatic cells often keep many characteristics of the primary cell. Thus, when cells from a primary cancer metastasize to a new site, they are still classified based upon their original location. For example, when kidney cancer cells spread to the lungs, the patient has metastatic kidney cancer and not lung cancer. However, during the process of spreading, cancer cells also develop additional changes so that they often have some distinct traits compared to the primary cancer.

Where does cancer metastasize?

Dr. Febbo: Cancer can spread to any part of the body. Common sites of metastatic tumors include lymph nodes, lungs, liver, brain, and bones. There are two theories on where tumors decide to metastasize. The first is the "seed and soil" hypothesis which describes the preference of certain primary cancers to metastasize to specific locations. The presumption is that the primary cancer ("seed") has certain characteristics that will let it establish a tumor in a specific location ("soil"). For example, the prostate cancer most frequently metastasizes to the bone. The specific reasons for such preferences with respect to site of metastasis remain largely unknown.

Another theory is that the local anatomy of the lymphatic system and blood vessels often determine which areas are most frequently involved. For instance, most lymphatic vessels from the breast move toward the armpit, a frequent site of lymph node metastasis for breast cancer. Similarly, the specific pattern of blood circulation through an organ impacts the location cancer can spread. Blood returning from the colon first passes through the liver which likely contributes to the predilection of colon cancer to metastasize to the liver.

What are the symptoms of metastatic cancer?

Dr. Febbo: While most patients will have some symptoms, there are patients who have no symptoms at all. Pain is a frequent symptom at the site of metastatic cancer. Many patients have general symptoms such as fatigue and loss of appetite.

What are the treatments for metastatic cancer?

Dr. Febbo: Therapy is usually based on the primary cancer and most often includes chemotherapy but can also include combination treatments such as chemotherapy with surgery and/or radiation treatments. Some patients with metastatic cancer can be cured; cyclist Lance Armstrong had metastatic seminoma and was cured. When we can not cure patients, we can often improve the quality and duration of their lives.

We're working hard to improve treatment and believe that major breakthroughs will come from individualizing patient care. For many years, tumors have been treated as if they are all the same, but we now know that's not the case. Not all metastatic breast cancers are alike and should not be treated the same way.

There are many clinical trials going on at Duke testing our recently discovered methods to choose established and novel treatments that are predicted to work best for each patient based upon genomic analysis on his or her tumor. We will be performing a trial that takes a similar approach in patients diagnosed with metastatic cancer with the goal of determining if our approach helps physicians choose the best therapy for each patient. These studies represent a major change in our current practices and have the potential to markedly improve care for men and women with metastatic cancer. *

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

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