Duke Comprehensive Cancer Center
notes
A Comprehensive Cancer Center Designated by the National Cancer Institute
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The Facts, Please, Just the Facts… on New Mammography Recommendations

Duke breast imaging radiologic technologists Judy Ingram, RT, (left) and Delmarie Frederici, RT, demonstrate a mammogram using a GE Senographe Essential Advanced Digital Mammography System. Ingram and Frederici are among nine radiologic technologists who perform 80 to 100 mammograms each day at Duke University Medical Center.

On November 16, 2009, the U.S. Preventive Services Task Force (USPSTF) recommended new guidelines on screening for breast cancer including mammography and breast self exams. The guidelines were met with considerable debate.

"Very smart, reasonable people review evidence and see different things," says Gary Lyman, MD, MPH, professor of medicine and director of Comparative Effectiveness and Outcomes Research at Duke University, senior fellow at the Duke Center for Clinical Health Policy Research, and a practicing breast oncologist.

"Any recommendations regarding screening—whether for breast cancer, prostate cancer, lung cancer, or others—are going to be met with differing opinions because the recommendations ultimately are based on differing value judgments," explains Daniel Sullivan, MD, professor of radiology at Duke. What is important to one person may not be as important to another, in terms of risks and benefits, says Sullivan, recipient of the 2009 Gold Medal from the Association of University Radiologists for his contributions to the field of academic radiology.

"It is a complicated and complex issue and many well-respected experts have strong opinions," says Amy Abernethy, MD, associate professor of medicine and interim director of the Duke Comprehensive Cancer Center's Prevention, Detection, and Control Research Program. "However, we can agree on several important points, and it's important to inform and educate our patients."

The discussion and debate regarding mammography guidelines can be confusing. What do the experts seem to agree upon?

According to Lyman, Sullivan, and Abernethy, there are several points that most physicians seem to agree upon:

- No screening test is perfect, and we need to develop better tests.
- Although we have made progress in our knowledge of breast cancer, we need to know more so that we can prevent occurrence. Until that time, we must continue our quest to determine how to treat every woman's breast cancer in the most effective way possible.
- Every woman should be familiar with her own breasts and should report any changes or concerns to her physician.
- Each woman should talk to her physician about mammography and should be allowed and encouraged to make her own decisions about whether or not to have a mammogram.

What do the most recently released USPSTF guidelines recommend?

The task force recommends against *routine* screening mammography in women aged 40 to 49 years, but states that "the decision to start regular, biennial screening mammography before the age of 50 years should be an individual one and take into account patient context, including the patient's values regarding specific benefits and harms."

For women aged 50 to 74 years, the task force recommends mammography screening every other year. The task force also concluded that there is not sufficient evidence to warrant screening mammography for women 75 years and older. The task force concluded that there was also insufficient evidence to warrant clinical breast exams and also recommended against clinicians teaching women how to perform breast self exams. Lastly, the task force concluded that there was insufficient evidence to assess the potential benefits and risks of digital mammography or magnetic resonance imaging (MRI).

What mammography guidelines do other organizations recommend?

On January 4, 2010, the American College of Radiology and the Society of Breast Imaging released mammography guidelines that recommend mammograms should begin at 40 for women with an average risk of breast cancer and by 30 for high-risk women. Other organizations including the American Cancer Society, American Medical Association, the National Comprehensive Cancer Network, the Canadian Task Force on Preventive Health Care, and the American College of Obstetrics and Gynecology also recommend that women aged 40 to 49 years have yearly or every other year mammograms. The American Academy of Family Physicians recommends that decisions about mammography in women aged 40 to 49 years should be based on an individual's risk for breast cancer, while the World Health Organization recommends mammography every one to two years for women aged 50 to 69 years.

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A Publication for Friends of Duke Comprehensive Cancer Center

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Federal Government Stimulus Funds Help Duke Researchers

Members of the Duke Comprehensive Cancer Center (DCCC) have received 88 grants totaling nearly $80 million, courtesy of the American Recovery and Reinvestment Act (ARRA)—often referred to as "stimulus money." Many of these grants are provided by the National Institutes of Health (NIH) and its centers. More than 275 ARRA grants have been awarded at Duke for more than $159 million, ranking Duke fifth nationally in the amount of NIH funding won under the stimulus program.

"NIH funding has been flat for six years—the longest plateau in its history—even though the costs of research have continued to rise," says Nancy Andrews, MD, PhD, dean of Duke's School of Medicine. "Our faculty's success in competing for these grants is helping us maintain our commitment to excellence in research and the education of future physicians, health care scholars, and basic and clinical research scientists."

The funding from most of these awards lasts only two years; however, some of these funds will support investment in important scientific equipment and infrastructure which will benefit the research community at Duke and beyond for years to come.

DCCC member Geoffrey Ginsburg, MD, PhD, received several ARRA grants, including a nearly $4 million grant with Gary Lyman, MD, MPH, to develop a lung and breast cancer registry that can be used to build evidence supporting the use of genomic biomarkers to guide chemotherapies. "We will evaluate novel predictive gene expression biomarkers that offer an opportunity to direct treatments to those most likely to respond and reduce unnecessary treatment toxicity, thus improving clinical outcome and personalizing cancer treatment," Ginsburg explains.

DCCC member Warren Warren, PhD, received a nearly $1 million "Challenge Grant" from the NIH, one of the many types of awards being funded with stimulus money.

"This is a huge step forward for us," says Warren. He is working with scientists and clinicians throughout Duke to improve methods for diagnosing melanoma and reducing the number of false positives. One part of the project involves using microscopic imaging, developed in Warren's lab during the last decade, to find biomarkers that traditional methods of pathology miss. "There is a very realistic chance that, with better microscopes, doctors can make more accurate analyses," says Warren.

The grant also will fund research using mice in which an invisible laser is used to image beneath the surface of a mole without incisions. The laser permits a better diagnosis than current clinical practice. At the end of the two-year grant, Warren expects that the laser will be proven safe and clinical trials with humans can begin.

Stimulus funding will enable DCCC member and epidemiologist Joellen Schildkraut, PhD, to continue her study of women with ovarian cancer. For nearly 12 years, Schildkraut has received NIH funding to collect tissue samples from more than 1,000 women throughout North Carolina who were recently diagnosed with ovarian cancer (and as a control, more than 1,000 who were cancer-free).

With more than $1.5 million in stimulus funds, Schildkraut's team is now able to study the DNA that was extracted from these tissue samples to look for genetic variants in candidate genes on the DNA repair and apoptosis pathways that may explain why women develop ovarian cancer. Without the stimulus funding, Schildkraut says her team would not have been able to continue its research.

For a complete list of ARRA recipients at Duke, visit http://stimulus.ors.duke.edu/path. ■


Ginsburg


Schildkraut


Warren

MAMMOGRAPHY RECOMMENDATIONS

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Do the new USPSTF guidelines deny any woman the ability to get a mammogram?

No. Although the USPSTF guidelines recommend against *routine* screening mammography in women aged 40 to 49 years, it doesn't say that women should avoid mammograms. Instead, the task force "encourages individualized, informed decision making about when to start mammography screening." The recommendation against routine annual screening does not apply to those women who are at an increased risk for breast cancer by virtue of a known underlying genetic mutation or a history of chest radiation.

Will insurance continue to pay for mammograms for women ages 40 – 49?

Most likely. On December 3, 2009, the Senate approved an amendment to its health care reform legislation that would require health insurers to cover mammograms for women ages 40 to 49. At the time of publication, the health care reform bill was not yet final.

What is the USPSTF?

The U.S. Preventive Services Task Force is sponsored by the Agency for Healthcare Research and Quality, part of the U.S. Department of Health & Human Services. The task force makes recommendations about which preventive services for numerous diseases should be incorporated routinely into primary medical care and for which populations. The task force does not set federal policy.

Who are members of the USPSTF?

The USPSTF is a task force that comprises physicians specializing in a variety of areas including epidemiology, internal medicine, and family medicine. To view a complete list of task force members and their credentials, visit www.ahrq.gov/clinic/uspstfab.htm ■

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Duke Researcher Studies Rare Type of Cancer in Children

Duke pediatric oncologist Corinne Linardic, MD, PhD, has a sign on her office door that reads, "Pediatric Cancer 5-Year Cure Rate = 78%...Let's Keep Up the Momentum."

According to the National Cancer Institute (NCI), approximately 11,000 children have cancer, with leukemia and brain cancer the most prevalent. Since the 1970s, the survival rate for pediatric cancers has improved greatly from less than 50 percent. Despite these successes, there are still types of pediatric cancers, such as rhabdomyosarcoma, that do not share these high rates of cure.


Linardic

Rhabdomyosarcoma is a cancer of the skeletal muscle that is found primarily in children and adolescents. Only approximately 350 new cases are diagnosed in the United States each year.

"We need to find out more about rhabdomyosarcoma so that we can cure these children," says Linardic. Since her residency training more than 10 years ago at the Children's Hospital of Philadelphia, Linardic's research efforts have been focused on this rare but often fatal disease.

There are two main types of rhabdomyosarcoma, explains Linardic. While embryonal, the more common, often can be successfully treated with a combination of chemotherapies, radiation, and surgery, the other type—alveolar—has a five-year survival rate of less than 30 percent when it is in the high-risk category. That rate drops to 10 percent when the cancer has metastasized.

Currently, there are relatively few researchers other than Linardic and her team who are studying the disease. Little information is available about new options for treatment, but Linardic is working to change that.

Linardic and a team of researchers recreated the disease in the laboratory by transforming normal skeletal muscle cells into sarcoma cells. In doing so, they defined some of the critical genetic changes that lead to the disease. "We are trying to determine what causes rhabdomyosarcoma to develop so that we can figure out how to destroy it," says Linardic, who is the first researcher to create these genetically defined models of the disease.

> "We are trying to determine what causes rhabdomyosarcoma to develop so that we can figure out how to destroy it."
> — Corinne Linardic, MD, PhD

The team has made significant progress, discovering several proteins found highly upregulated in the alveolar type. The researchers believe these proteins may contribute to the cancer's behavior.

They also are studying the cell lines from children with the disease to find mutations that could be targets for treatment. By studying these cell lines and assessing their ability to cause tumors in laboratory mice, the team has found several promising targets. Linardic hopes that clinical trials in children to test existing and emerging treatments aimed at these targets can soon begin.

While only five percent of adults participate in clinical trials, between 55 to 65 percent of children under age 14 participate in a NCI-sponsored clinical trial. Many oncologists believe this high rate of participation in trials has resulted in a better understanding of pediatric diseases and is ultimately the reason that many pediatric cancers are often curable.

Researcher Aims to Find New Ways to Protect Healthy Tissue During Radiation

"We have the technology to cure many tumors using high doses of radiation," says Zeljko Vujaskovic, MD, PhD, a member of the Duke Comprehensive Cancer Center (DCCC) and associate professor of radiation oncology. "Our main challenge is killing the tumors while protecting the patient's healthy tissue."

Vujaskovic explains that even with the most advanced equipment, radiation beams will inevitably touch some healthy tissue, often at the edges of the tumor as physicians work to ensure that the entire tumor has been treated. In addition, when radiation therapy is combined with chemotherapy, while it may better treat the tumor, it also enhances the risk of damaging normal tissue.

Because of these issues, physicians limit the amount of radiation they prescribe to try and protect healthy tissue surrounding the tumor.

Working with Duke chemists, Vujaskovic has identified and tested a new drug which can prevent and treat radiation injury to healthy tissue while improving the radiation's ability to kill tumors. The drug, similar to a protective enzyme found naturally in humans, reduces inflammation caused by radiation and thereby decreases the severity of radiation-related side effects. The side effects of radiation therapy can be severe. For example, side effects include erectile dysfunction and rectal bleeding for patients with prostate cancer, breathing difficulty in lung cancer patients, or difficulty with food intake in patients with head and neck cancers.

> "Our main challenge is killing the tumors while protecting the patient's healthy tissue."
> — Zeljko Vujaskovic, MD, PhD


Vujaskovic

Vujaskovic expects clinical trials of the new drug to begin within a year for cancer patients either during or after radiation treatment with advanced stages of cancer.

In October 2009, Vujaskovic was awarded the prestigious R. Wayne Rundles Award for Excellence in Cancer Research from the DCCC in recognition of his outstanding research in radiation therapy.

Going the extra mile

"In 2008, I decided to walk across Florida to raise awareness for brain cancer and to inspire people to live life to the fullest."

— Tony McEachern

Tony McEachern (right) with best friend Dale O'Hara walking through a lightning storm in northern Florida on day 32 of McEachern's walk.

Tony McEachern gives a hug to a woman who had two relatives with brain tumors.

Walking the walk

For 43 days, over 800 miles, Tony McEachern walked, and walked, and walked. If the vision seems reminiscent of Forrest Gump's run across America, it is…except McEchern walked for a purpose.

He walked to draw attention not to himself, but to a cause that he believed in—cancer research.

A healthy 33-year-old bicyclist, McEachern suffered a seizure in April 2003. Physicians in his hometown of Sarasota, Florida, subsequently discovered a tumor the size of a fist in his brain. McEachern was diagnosed with a grade III anaplastic astrocytoma brain tumor.

Surgeons in Florida were able to remove most of the tumor, but within three to four months, the tumor—this time the size of a golf ball—grew back. McEachern's family and friends began researching brain tumors and possible treatments to determine McEachern's options. All came to the same conclusion: they urged McEachern to seek treatment at Duke.

In the fall of 2003, McEachern was seen by neurosurgeon Allan Friedman, MD, and neuro-oncologist Henry Friedman, MD, at The Preston Robert Tisch Brain Tumor Center at Duke.

"I felt relief when Dr. [Henry] Friedman said, 'I think we can help you out here,'" says McEachern.

After three more surgeries, two years of radiation, five years of chemotherapy, and several experimental treatments, McEachern feels fine today, and experiences only some vision problems which keep him from bicycling.

Since his initial diagnosis, McEachern has met many people with cancer. "It would be easy to let cancer control your life. In 2008, I decided to walk across Florida to raise awareness for brain cancer and to inspire people to live life to the fullest," explains McEachern.

Once he completed his walk across the state, his dream then grew. McEachern decided to walk from Durham to Florida. He decided to begin walking from the 2009 Angels Among Us event at Duke in April. The Angels Among Us 5K and Family Fun Walk is an annual fundraiser that benefits The Preston Robert Tisch Brain Tumor Center at Duke.

"I am so obligated and thankful for Duke," McEachern says. "So it just made sense for me to walk to my home in Florida after the Angels event was over."

He says his journey raised awareness for brain cancer and the great care he received at Duke. Along the way, he collected $24,000, often from people he met on his walk. He donated the money to Duke to fund brain tumor research.

"The dedication of people like Tony is absolutely amazing," says Darell Bigner, MD, PhD, director of The Preston Robert Tisch Brain Tumor Center. "With donations like his, we are able to research new therapies that will enable patients to live longer with a better quality of life."

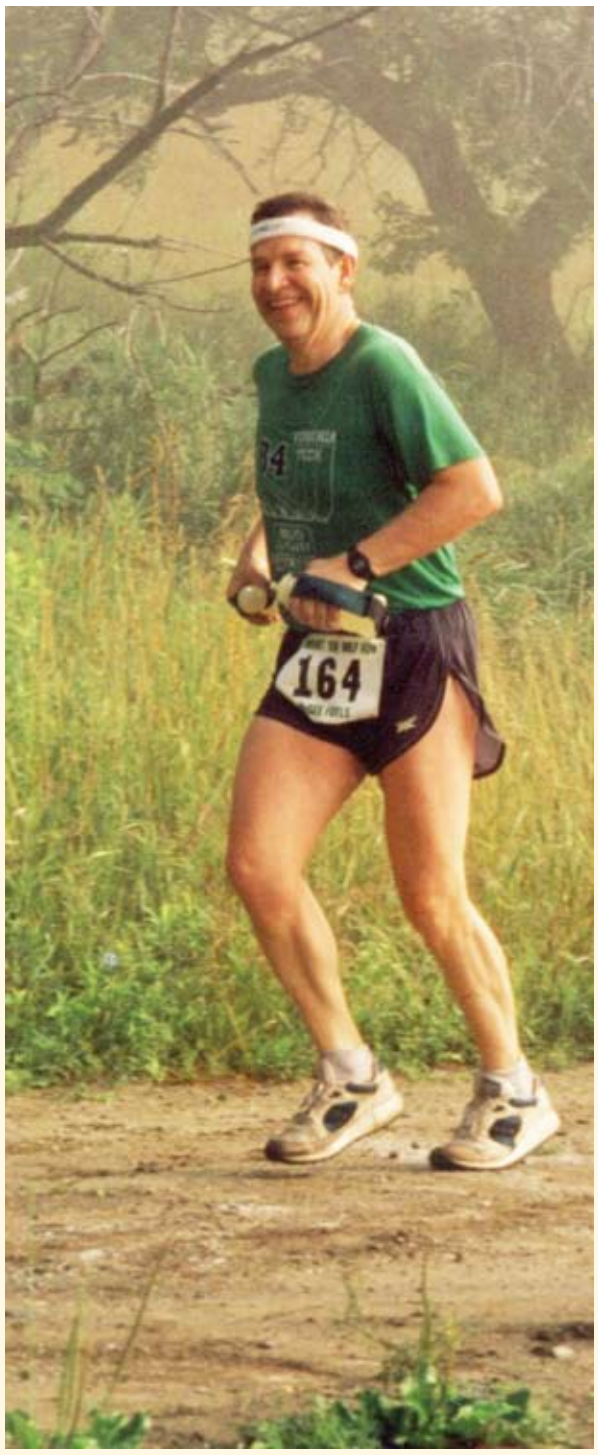
McEachern wore out six pairs of shoes and a dozen pair of socks during his walk from Durham to Florida. And like most of the hotel rooms, the shoes and socks were donated by individuals and companies who supported his efforts. On June 9, 2009, he arrived home with a police escort greeted by several hundred cheering people.

Now McEachern has additional plans to support The Preston Robert Tisch Brain Tumor Center. He is planning "Coast to Coast for Cancer," a walk across the state of Florida to raise awareness and money for a cause to which he will always be dedicated.

Using your feet times two

Chuck Petersen also uses his feet to benefit cancer research. He has run 57 marathons and has competed in 12 ultra 100 mile trail races and more than 100 shorter races since he began running in 1977. The 69-year-old is always training and often finds loose change while running.

His desire to put that loose change to good use began in 1987, when the four-year-old daughter of his training partner was diagnosed with leukemia. He decided then to give all the change he found that year to the little girl for Christmas. She was delighted, he remembers. In 1988, he collected even more—$52.36, and donated it all to the Duke Comprehensive



Chuck Petersen

Cancer Center in honor of the little girl, who had died earlier that year.

"I knew of Duke's great reputation and wanted to keep the money in my local community," explains Petersen.

Every year since then—for 21 years—Petersen comes back to the Duke Comprehensive Cancer Center with the money he found while running during the previous year. While he was working (he is now retired), his employer would match the donation which doubled the amount of money the Cancer Center received.

Petersen always runs with a sock to hold the money he finds. He thinks that the best places to find change are in parking lots just as the sun is coming up. He also finds about two wallets a year but gives those to police. One year, he placed the change he had collected in his car the night before he was going to present it to Duke. The car was broken into and the money was stolen. The next day, Petersen wrote a check for the $200 he was going to give.

To date, Petersen has donated $6,500 and logged 86,000 miles to help fund cancer research at Duke. He hopes that others will join him in contributing all of their "found" monies to the Duke Comprehensive Cancer Center.

"I knew of Duke's great reputation and wanted to keep the money in my local community." — Chuck Petersen

Gracie Burud as Duke's Dr. Joseph Moore

Gracie Burud

"Seeing the children grow up and Gracie giving up her birthday gifts to help cancer patients is truly remarkable."

— Joseph Moore, MD

The gifts from a child

For her entire life, 10-year-old Gracie Burud's father Mark had a rare cancer called epithelioid sarcoma of the soft tissues in his right arm. She would often accompany him to Duke to get treated for the disease and would meet the doctors and staff. Gracie views Duke as a happy, fun place to go to, according to her mother Gretchen.

In 2008, six months before Gracie's 10th birthday, her dad died unexpectedly. While 95 percent of people with Mark's type of sarcoma die within five years, he lived more than 20. For 17 of those years, he was treated at Duke.

Gretchen says that her daughter has a very mature understanding of cancer. Mark never gave into the disease and was always impressed by the research at Duke and the care he received from oncologist Joseph Moore, MD, and the staff of nurses and care providers, explains Gretchen. Gracie grew up hearing the adults discuss Duke's cutting-edge cancer research.

So when Gracie turned 10, she asked family and friends not to give her gifts, but instead to make donations to the Duke Comprehensive Cancer Center in honor of her dad. More than $400 was collected and donated.

Gracie wanted to help Duke so someone else's father would receive the great treatment he did and would help further the research she heard so much about, continues Gretchen.

Gracie's efforts haven't stopped. Last year, Gracie's school, Davidson Elementary, donated proceeds from its annual Rock and Read fundraising program to the Duke Comprehensive Cancer Center. Students pledged money for the number of books they read during that special day. More than $3,000 was raised to benefit cancer research at Duke.

"I have appreciated the friendship I have had with the Burud family over the last 17 or so years," says Moore. "Seeing the children grow up and Gracie giving up her birthday gifts to help cancer patients is truly remarkable."

"The Duke Comprehensive Cancer Center is so very grateful for people like Gracie, Chuck, and Tony," says H. Kim Lyerly, MD, director of the Cancer Center. "These are truly selfless individuals who want to help further our understanding of cancer and help others—that's a true gift."

Investigators Explore the Benefits of Exercise and Nutrition for Cancer Patients

Whitney Hornsby, PhD, clinical exercise physiologist; Miranda West, BS, clinical research coordinator; Lee Jones, PhD, associate professor in the Department of Radiation Oncology; and Kimberely Duren, MS, clinical exercise physiologist

Little data currently exist to guide diet and exercise recommendations for cancer patients and survivors, according to the 2009 Educational Book from the American Society of Clinical Oncology.

Lee Jones, PhD, an exercise scientist and associate professor in the Department of Radiation Oncology, agrees. Jones has recently been appointed the first scientific director of the Duke Center for Cancer Survivorship. In his new role as director, Jones is responsible for developing and sustaining a strategic vision for cancer survivorship research at Duke.

The guidelines that currently exist simply recommend "weight control, regular physical activity, and obtaining essential nutrients through a balanced, plant-based, unrefined diet" for individuals diagnosed with cancer. These are the same recommendations provided for the general population; however, the Educational Book states that the recommendations may be even more important among survivors who are at greater risk for other conditions including second cancers.

"The Duke Comprehensive Cancer Center has a strong reputation in survivorship research, and we are fortunate to have internationally renowned investigators in this domain," says Jones.

Part of this global effort is Jones' own work focusing on the functional impact of cancer and related treatments as well as the role of interventions, primarily exercise, to prevent and/or mitigate functional injury.

According to Jones, a key concern is that cancer survivors are more vulnerable to severe declines in functional ability due to the direct effects of therapy, multiple diseases in the body, and effects secondary to treatment such as declines in exercise levels. As a result, patients become deconditioned. Jones believes that deconditioning (or poor fitness) is of central importance to the risk of several key survivorship issues such as fatigue, poor quality of life, depression, other chronic diseases (e.g., type II diabetes and cardiovascular), and possibly even cancer recurrence and long-term survival.

"If we identify which patients are at increased risk of these conditions early in the survivorship experience, then we can prescribe the appropriate interventions to address these issues before," says Jones. "Our approach is toward personalized care—to gather data that will allow us to optimize the care for each individual patient."

Jones' own research efforts focus on a transdisciplinary approach to 'exercise oncology'—a new field of study focused on the effects of exercise on cardiovascular and tumor-related outcomes using both animals and human models of cancer.

His goal is to bring together numerous Duke scientists and clinicians from diverse fields to apply their knowledge to the investigation of exercise and nutrition in a number of oncology settings.

Jones and his team are in the process of opening three large trials examining the effects of exercise among men with prostate cancer who have recently undergone surgery; lung cancer patients who have completed therapy; and breast cancer patients who have also completed primary therapy. If individuals are interested in finding out more details about these studies they can contact Miranda West at 919-681-5494; Miranda.west@duke.edu or visit Jones' website http://jonescardiooncologylab.squarespace.com.

Duke Names New Director of Oncology Clinical Trials

In 2008, more than 4,400 patients participated in more than 700 cancer-related clinical trials at Duke.

George

This fall, Duke medical oncologist Daniel George, MD, was tasked with overseeing the clinical trials operations in oncology at Duke. George, who specializes in prostate and kidney cancer, was named medical director of the Duke Comprehensive Cancer Center's Oncology Clinical Trials Shared Resource (OCTSR). The OCTSR provides oversight and support on regulatory and compliance issues.

"One of my goals as director is to integrate the priorities in cancer care with that of clinical research," says George. "I want to create an infrastructure and provide support to facilitate the highest quality research for our cancer patients."

According to the National Cancer Institute (NCI), nationally less than five percent of adult cancer patients are enrolled in clinical trials. George notes that there are several reasons for this low level of participation including lack of access to trials, added responsibilities of patients (more visits, more tests), and possible risks.

Nonetheless, George underscores the critical importance of clinical trials. "Duke clinical investigators are doing great cancer research," says George. "And the clinical trials we offer patients can benefit them and can help doctors better understand the disease and potentially help other patients."

At Duke, more than half of cancer patients who enrolled in clinical trials in 2008 were on trials initiated by Duke researchers. Patients on these trials have access to the newest drugs from pharmaceutical companies as physicians monitor to determine if the drugs are more effective than the current standard of care.

Clinical trials are divided into four phases. Phase I trials are the earliest phase in humans and usually involve a small group of patients. At this stage, the goal is to determine how the drug should be administered and determine the correct dosage. Phase II trials enroll a larger number of patients. In addition to ensuring the drugs' safety, physician-researchers are working to determine the drug's effectiveness. Phase III trials are usually large trials involving many patients and often numerous institutions. These trials are used to confirm a drug's effectiveness. After a drug has been approved by the Food and Drug Administration (FDA) and is available to consumers, it is often still tested as part of Phase IV trials.

While some Phase III and a few Phase II trials can be conducted at community hospitals, large medical centers like Duke are the only appropriate places for many Phase I trials, the first trials in humans, says George. The comprehensive research infrastructure—from pathologists to pharmacists to laboratories—needed to run these trials is rarely available at smaller locations.

Since June 2006, Keith Garland has been on a Phase II clinical trial led by George that is studying the use of the drug Tykerb (lapatinib) to treat prostate cancer. Tykerb is used currently to treat certain breast cancer patients. Duke is one of only three hospitals to offer this trial.

"I decided to participate in this trial because I felt it would offer me the best in medical care," says Garland, a former commanding officer in the Navy. "I was on a 'special mission' to defeat prostate cancer." Today, he feels "perfect" and says he credits that to the clinical trial.

According to George, over the last 15 years patients enrolled in clinical trials have experienced greater clinical benefit than in the past, due to a combination of improved scientific understanding of cancer biology—resulting in rational treatment strategies—and more advanced quality drugs. He believes that this trend will continue.

Gift for New Cancer Center Building Honors Loved One

In November 2009, William Caler, Jr., attended the groundbreaking of the Duke Medicine Cancer Center and was so moved by the experience that he donated $100,000 toward the new building, which is scheduled to open in 2012.

Victor Dzau, MD, Duke University's Chancellor for Health Affairs and President and CEO of Duke University Health System, hosted the groundbreaking event which featured North Carolina Governor Bev Perdue and Duke University President Richard Brodhead, in addition to numerous other dignitaries and special guests.

"I was touched by the speech that Chancellor Dzau gave at the groundbreaking," explains Caler. "I really like the idea of cancer care and services at Duke being located under one roof. This new building will be more convenient for the patients."

Caler's gift to the Duke Comprehensive Cancer Center (DCCC) was made in honor of his sister, Rosa May Seward Caler, who was treated in 2004 and 2005 at Duke before passing away in 2006 from esophageal cancer.

An infusion bay overlooking the rooftop garden of the new Cancer Center will be named in honor of Rosa May.

Rosa May Seward Caler and William Caler, Jr.

William is donating an additional $25,000 to the Duke Cancer Fund. The Duke Cancer Fund accelerates progress by funding innovative research.

Rosa May, a Florida resident, was diagnosed with cancer in 2004. Family members and friends urged her to seek treatment at Duke, so she traveled to Durham and met with surgeon Thomas D'Amico, MD; radiation oncologist Christopher Willett, MD; and medical oncologist Herb Hurwitz, MD. She was able to return home to receive some of her treatment, under the direction of Willett and Hurwitz. She later came back to Duke for surgery performed by D'Amico.

"All of her physicians at Duke were highly qualified people who worked well together," says William. "Rosa May had a very good experience at Duke. It was wonderful that she could be treated under the leadership of Duke physicians while at home in Florida."

Rendering of an outdoor rooftop garden atop the new Duke Medicine Cancer Center

New Duke Medicine Cancer Center Will Feature Rooftop Garden

Architects of the new Duke Medicine Cancer Center have incorporated many new features to enhance the patient experience. Large windows will let in sunlight, and patients may choose to receive chemotherapy in an outdoor rooftop garden, illustrated above. When it is completed in 2012, the seven-story cancer center and 24,750 square feet of renovated space in Morris Cancer Clinic will consolidate in one location all of Duke's outpatient clinical cancer services. The new facility will have more spacious rooms, areas designed for privacy and meditation, a cafe and conveniently located support and education services including nutritional counselors. Clinical areas have been designed to ensure that exam rooms, pharmacy, and CT, MRI, and PET imaging are in close proximity, minimizing the need for patient transport and improving coordination of care among physicians, nurses, and other caregivers.

To keep up-to-date about progress of the construction, visit www.dukemedicine.org/construction.

BJ's Continues to Support Cancer Research

BJ's Charitable Foundation has donated more than $150,000 to the Duke Comprehensive Cancer Center (DCCC) over the last three years, primarily to support breast cancer research. The foundation is affiliated with BJ's Membership Club, an east-coast based company.

"For the past three years, our members have generously supported an in-club promotion called the Pink Ribbon Campaign," says Jessica Newman, manager of community relations for BJ's. "The campaign encourages members to purchase any number of our pink-branded merchandise. A portion of the proceeds from the sale of the products bought during October is designated to support cancer research."

The majority of the company's support has been allocated to the Duke Cancer Fund, the DCCC's annual fund, to provide immediate money to fund critical breast cancer research projects and initiatives at the DCCC at the discretion of senior leadership of the Cancer Center.

"BJ's and its members are proud to continue our support for Duke again this year," says Newman. "We know that together we can help women and their families in the fight against this terrible disease."

Duke Comprehensive Cancer Center

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ask the experts

CANCER AND THE ENVIRONMENT

H. Kim Lyerly, MD, Director, Duke Comprehensive Cancer Center and
William Chameides, PhD, Dean, Duke Nicholas School of the Environment

Dr. Lyerly and Dean Chameides, from left

Why should we study the link between the environment and cancer?

CHAMEIDES: Every year, humans introduce new chemicals into the environment, often with little understanding of how they affect human health and the health of our planet.

LYERLY: Studies of twins published a few years ago revealed some startling facts. For identical twins, the rate of cancer occurring in the second twin if the first twin was diagnosed with cancer was much lower than suspected. This suggested that genetics and environmental influences were affecting the incidence of cancer. An increasing number of people are becoming interested in this area of discovery. President Obama's Cancer Panel focused its most recent report on the link between the environment and cancer. The report is due out in early 2010. Still, we need to know more.

Could you define "environment?"

CHAMEIDES: When we think of the term "environmental agent," we are all-inclusive: these are both naturally occurring and man-made chemicals and minerals in the air, water, and food that we are exposed to on a day-to-day basis.

Is there any concrete evidence of the link between a specific cancer and the environment?

LYERLY: Scientists tend to agree that genetics are only a part of the complex issue of disease development and that susceptibility to cancer is likely determined by a complicated interplay of lifestyle choices such as smoking and diet, as well as genes, exposures to environmental toxins, and aging.

Why is Duke uniquely positioned to lead the investigation of this link?

CHAMEIDES: Researchers from both units are working together to unravel the relationship between genes and the environment so we can better understand why some people develop disease and why some remain unaffected when exposed to the same environmental factors. Scientists from both units are sharing their knowledge as they examine how different outside factors interact with genes in determining how, or if, a particular disease occurs.

LYERLY: The partnership between the Duke Comprehensive Cancer Center and the Nicholas School of the Environment is a unique collaboration.

Since 2006, these two organizations have been working on collaborative research projects exploring how environmental agents interact with genes to promote the growth and spread of cancer. We have co-sponsored international conferences aimed at understanding the link between the environment and disease.

Most recently, we worked together to bring Bill Ross, Jr., the former secretary of the North Carolina Department of Environment and Natural Resources, to Duke University as a visiting scholar. Bill holds a joint appointment in the Cancer Center and the Nicholas School. His work focuses on the development of environmental policies and plans for a new Cancer Center program at Duke that will focus on environmental factors that can lead to cancer.

Bill Ross, Jr.

None of this work would have been possible without the continued support from our friends Fred and Alice Stanback. The Stanbacks have a passion to know more; they want to understand this link. We want to know, too, and we're committed to making those discoveries.

What types of studies are Duke scientists investigating currently?

LYERLY: Duke Comprehensive Cancer Center scientists Donald McDonnell, PhD, and Phil Febbo, MD, are among the many who are investigating this growing area of discovery and have already made significant progress.

Dr. McDonnell and his team of scientists have studied an industrial solvent (EGME) and a commonly prescribed drug, valproic acid (Depakote), and have found that they increase estrogen and progestin activity within breast cancer cells. These results are significant given the established role of estrogens in the progression of most breast cancers.

Dr. Febbo is currently leading a research project aimed at identifying which environmental agents may affect those patients who are living with prostate cancer.

CHAMEIDES: Nicholas School Associate Professor Avner Vengosh, PhD, is a geochemist well known for his expertise on the chemical and isotopic composition of water contaminants. Avner worked with other Nicholas School scientists and with cancer investigator Julia Kravchenko, MD, PhD, on a scientific paper published last year that examines the link between the environmental contaminants from the Tennessee Valley Authority's Kingston coal-burning plant disaster in 2008 and contaminated water and health risks.

You can find the answers to big questions if you have the culture and willingness to work together.