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University of Tennessee Graduate School of Medicine

Winter 2013

Frontiers (Winter 2013) - Hope is Found at the New Cancer Institute

University of Tennessee Medical Center

University of Tennessee Graduate School of Medicine

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WINTER 2013

Frontiers

The University of Tennessee Medical Center & The University of Tennessee Graduate School of Medicine

The Cancer Institute / Building a New Design / A Survivor's Determination



Hope

is found at the new Cancer Institute.

For Alumni and Friends

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The Cancer Institute at The University of Tennessee Medical recently celebrated the 10th anniversary of Survivors Day, a day of celebrating life with our patients and their families. In this video, cancer survivors were asked what cancer means to them. Scan the QR code or visit the website to watch this inspiring and touching video of patients and employees at the Cancer Institute.

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Scan code
to watch video.

http://youtu.be/H_oZIKxVei8

Frontiers

The University of Tennessee
Medical Center and the
University of Tennessee Graduate
School of Medicine Frontiers

Winter 2013

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Wisdom for Your Life.



Dear Alumni and Friends,



One of the privileges of serving in a leadership role at The University of Tennessee Medical Center and University of Tennessee Graduate School of Medicine is the opportunity to be a part of milestone events in the history of these great institutions. The official opening of the new Cancer Institute on October 16, 2012, was one of those genuinely special events. The partnership between The University of Tennessee Medical Center and UT Graduate School of Medicine as the region's only academic medical center and our common mission of healing, education and discovery are underscored and abundantly evident in all aspects of the Cancer Institute. From its prominent physical presence at the "front door" of our campus to the skilled and compassionate physicians, nurses and other health professionals who fill the halls and clinics to the hopeful patients and families who receive care in this comforting environment, the medical center has succeeded to provide the finest cancer care in the region.

This has truly been a team effort, involving not only architects, designers and builders but also physicians, nurses, associated health professionals, patients, caregivers and families whose dreams, ideas and suggestions helped us create a functional and inviting building that addresses the needs, concerns and dignity of patients and families entering the building every day. We believe that as a result of this collaboration, our patients and their healthcare teams are able to focus entirely on the hope of managing and overcoming cancer. The finest cancer care is made possible by researchers and physician scientists who conduct research to solve the mysteries of cancer. The UT Graduate School of Medicine embraces a diversity of research programs at the basic-science and clinical levels and uses research discoveries to improve patient care. The institution also ensures a well-rounded education for medical students, residents and fellows by including in virtually all specialties' curricula in cancer prevention, diagnosis, treatment—as well as an understanding of the impact cancer can have on patients and their families. We know the best physicians are equipped to provide both comprehensive and compassionate care.

This issue of *Frontiers* highlights cancer care, research and education and spotlights The University of Tennessee Medical Center Cancer Institute. Readers also will find the 2012 annual report of the UT Graduate School of Medicine, featuring some of the institution's achievements throughout the year and comments on challenges to come. We appreciate your continuing support as we look to the future through forward-thinking research and outcomes-based physician education and focus on today by providing the highest quality and most innovative care in this region.

Sincerely,

Joseph R. Landsman, Jr.
President and Chief Executive Officer
University Health System, Inc.

James J. Neutens, PhD
Dean
UT Graduate School of Medicine

About the Cover



Research, technology and exciting new treatment options are changing the way we approach cancer care. The University of Tennessee Medical Center Cancer Institute's new facility brings renewed hope to the area with the best in early diagnosis, treatment and patient care. It brings the development of new treatments together with our team of cancer specialists, nurses and researchers at the region's only academic medical center.

Our Mission | To serve through healing,
education and discovery

Our Vision | To be nationally recognized for excellence in patient
care, medical education and biomedical research.

We Value | Integrity • Excellence • Compassion
Innovation • Collaboration • Dedication

The Cancer Institute

Treating cancer through
healing, education and discovery

By John L. Bell, MD



The University of Tennessee Medical Center has held true to its mission of healing, education and discovery—and has adopted sophisticated strategies as cancer treatment and research have evolved. As healthcare changes and the needs of the population grow, the medical center has responded to the community by expanding into the new Cancer Institute and refining our focus and research on patient care and cutting-edge treatment options. We are not only looking at the mystery of what causes cancer but also searching for more effective ways to prevent, detect and cure cancer by providing education and individualized treatment plans for patients.

So in a practical sense, our three-fold mission of healing, education and discovery is put into practice by customizing healthcare for the individual using evidence-based protocols and treatment plans. We educate to make certain the communities as well as the caregivers are knowledgeable. Finally, we research cancer and discover cutting-edge technologies to treat patients more efficiently. ►►



Top: Hayley Anderson, a breast center technician, helps a patient with a preventative mammography screening. Bottom: Kathleen Hudson, MD, a radiologist, explains to Austin Bourgeois, MD, a patient's breast imaging diagnostics in the Breast Center.

Healing

As the leader of cancer diagnosis, treatment and research in our region, the Cancer Institute is prepared to serve the impending rise of new cancer cases by providing an expanded facility, access to physicians and staff capable of handling increasing volumes and the latest in cancer diagnostic imaging and treatment as well as offering survivorship clinics and integrative therapies to meet the needs of the whole person.

New cancer cases are expected to double over the next 40 years primarily due to an aging population coupled with our ability to diagnosis earlier and treat more effectively with new medical advances. Furthermore, the number of cancer patients and survivors in East Tennessee will continue to grow at rates previously not experienced. To serve the needs of our

community, the Cancer Institute expanded to accommodate the future rise in patients while bringing the continuum of cancer care under one roof for the easiest usability for patients and medical professionals.

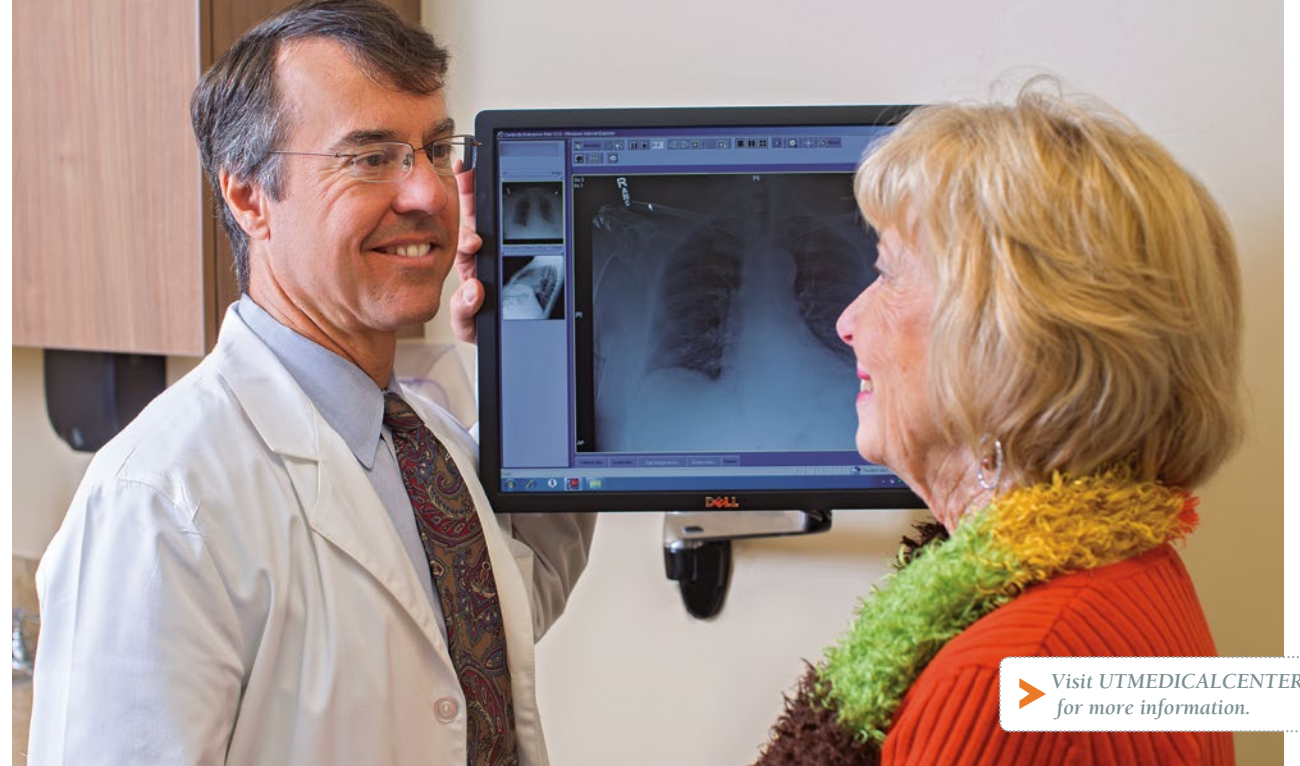
A Community Advisory Committee composed of patients and their family, community members, business leaders, government officials and volunteers come together to provide guidance, feedback and support for the Cancer Institute. This committee has served on The University of Tennessee Medical Center campus since 2004, and has aided in the development and enhancement of the new facility. Our ability to work with patients, families, medical professionals and community members gives us the knowledge to always serve the needs of those we care for.

The Cancer Institute also works collaboratively with cancer specialists and a multidisciplinary team provides patients with a personalized care plan that meets all of their needs. Our dedicated cancer specialists are board certified and supported by a cancer team including nurses, pharmacists, radiation therapists, social workers, dieticians, chaplains, massage therapists and other health professionals.

The University of Tennessee Medical Center Cancer Institute combines an environment fostering healing with advanced technologies and treatments including CyberKnife radiosurgery, a linear accelerator, isolated limb infusion, intraperitoneal chemotherapy, clinical trials and advanced micro-vascular reconstruction. Patients receiving care at the Cancer Institute experience the most effective treatment in a caring and compassionate manner along with access to a full complement of specialist physicians.

Education

As part of our mission, the Cancer Institute leads the region through ongoing education of medical professionals and offering education and early detection programs to the community. As an academic medical center, we are charged by the community with developing accredited educational programs to recruit, educate and retain caregivers at all levels—including physicians, nurses, technologists, support staff and students. Many of these professionals would have to leave the region and obtain medical training elsewhere were it not for The University of Tennessee Medical Center. By educating caregivers, we increase the likelihood they will choose to stay in our community and serve its healthcare needs. For cancer patients, this means being cared for by staff who have both the responsibility and skill to train the next generation of healthcare professionals. Medical professionals work with medical students, residents, fellows, nurses, physician assistants and other health care professionals to address the



Timothy J. Panella, MD, a medical oncologist at the Cancer Institute, discusses a patient's X-Ray screening results.

Visit UTMEDICALCENTER.ORG for more information.

patients care. Patients benefit from multidisciplinary teams such as ours because of their involvement in education, research and the latest treatment options—joining together to provide the best care.

The Cancer Institute's educational programs include diverse community outreach offered throughout the region as well as continuing medical education for other physicians. The University of Tennessee Medical Center, with support from the Cancer Institute, collaborates with city and state health departments, community partners and East Tennessee based coalitions to assess and monitor the needs of local residents concerning cancer prevention. Evidence-based outreach programs are offered to patients and the community that are designed to eliminate disparities in a variety of cancers; educate diverse populations about clinical trials; and strengthening cancer prevention to the under-served population.

Discovery

Research is the cornerstone of our treatment at the Cancer Institute. Our vision is to accelerate research advances related to cancer and improve our ability to translate these discoveries into the most advanced cancer care to our patients.

In a research program approved by the Institutional Review Board, we are investigating the use of a novel biomarker to identify cancer disease stages and predict treatment responses in different types of cancer such as breast, lung and melanoma. Innovative research such as this drives the discoveries we envision for the future care of our patients.

Today, we offer more clinical trials at more levels of specificity for more types of cancer found anywhere in the region. Our patients have access to the latest drug developments and medications capable of improving quality and duration of life. Information about clinical trials available for a specific cancer type and stage of disease progression is helpful in leading to the most appropriate treatment.

For the first time in the history of this campus, the new Cancer Institute facility brings all outpatient cancer services such as gynecological oncology, radiation oncology, surgical oncology, medical oncology, supportive and integrative services, chemotherapy infusion, breast imaging and diagnostic procedures all “under one roof” with convenient parking steps away from the entrance. Much thought was placed into the development and patient flow of the building by physicians, staff, patients and families. While a building is made of bricks and mortar, this facility with physicians and other caregivers provides hope to our community of patients and families we serve. ■

John Bell, MD, Professor, Division of Surgical Oncology and Director, The University of Tennessee Medical Center Cancer Institute



Building a New Design for Cancer Care

When you think of cancer, you don't ordinarily think of celebration. But the idea of celebrating life characterizes the new Cancer Institute at The University of Tennessee Medical Center, from its initial conception and development to the facility's sophisticated design. The new, expanded 100,008-square-foot space is equipped with features that support and enhance the comprehensive services provided to oncology patients. Even more important than the additional space is the facility's design, devised to meet the needs of patients, families, physicians, nurses and other staff.

By **Bonnie Horner**

Every aspect of the new design is based on nature and uses earthy, elegant colors, patterns, fabrics and artwork to create warm and welcoming surroundings that enhance a patient's experience.

As visitors enter the Cancer Institute, they are greeted by the Wall of Hope, a stunning tile mural located in the patient waiting area. The inspirational, one-of-a-kind mural symbolizes the efforts of members of the community to help patients, families and staff overcome the challenges of cancer. It transforms messages of hope into art. Made of glass tiles, the wall is lighthearted, colorful and random—like confetti, a material of celebration.

The first floor also showcases a beautiful custom-made ribbon sculpture, designed by a regional artist who created the hand-blown cracked glass ribbon.



Larry C. Kilgore, MD, a board-certified leader in gynecologic oncology, stands in front of the new resource library available to patients and visitors in the new Cancer Institute.

The unique glass ribbon changes color to represent the many different types of cancer treated at the Cancer Institute.

On the first floor patients have access to a spacious, comfortable waiting area that serves the Breast Center, the Diagnostic Center and the Radiation and CyberKnife Center. Or they can shop in the Befitting You boutique, which offers jewelry, clothing, wigs, hats, prosthetics and other specialty products for patients undergoing treatment and beyond. Once a small nook in a corner of the previous facility, the boutique now has a large central location, providing private changing rooms and the capacity to serve several shoppers at a time.

Also available to patients on the first floor is the Kilgore & Family Resource Center, a source of patient education materials and additional online resources. It has four public-use computers, as well as informative brochures, books and literature provided through a partnership with the American Cancer Society. An ATM and a casual full-service café for patients and family member's comfort and convenience are located in the 1st floor lobby, which will soon boast a baby grand piano.



Pictured above: One of two private patient waiting rooms located in the new Breast Center suite.

"In the planning of the new Cancer Institute, evidence-based research on cancer center design along with input from patient focus groups were used to ensure even the smallest details were considered in an effort to create an environment that promotes healing, comfort and safety for our patients and their families. We considered these decisions as important as those made on choosing state-of-the-art technologies for the new Cancer Institute."

Renee Hawk, Vice President
of the Cancer Institute

Although the Cancer Institute's new amenities are important, the smallest details of its design, layout and décor did not go overlooked. The University of Tennessee Medical Center partnered with Mohawk Flooring on a brand new line of carpeting to continue the welcoming feel of the facility. The carpeting in the lobby and common areas has a pattern of sunbursts (coincidentally, the pattern's name is Ray of Sunshine, a further echo of the theme of



Pictured above: Welcoming patients as they enter the Cancer Institute is the Wall of Hope. A source of inspiration and art for patients, visitors and staff.

celebration). Through the partnership, Mohawk Flooring donated a percentage of its Cancer Institute sales to the local Susan G. Komen Breast Cancer Foundation. Vine-pattern flooring helps give the diagnostic and screening rooms in the Breast Center a natural, cozy atmosphere. Cherry-blossom wall coverings line the waiting areas, accented with sheer curtains and pretty fabrics. ▶▶



Scan code to tour the new Cancer Institute.
<http://www.utmedicalcenter.org/cancer-institute-pictures>



Pictured above: One of the six chemotherapy coves in the new Cancer Institute. Each cove accommodates six chairs for patients, family and visitor seating areas, privacy curtains, personal storage space and a television.

The new Cancer Institute provides ample opportunities and space to expand integrative programs and services focused on treating the whole patient—mind, body and spirit. Services such as acupuncture, yoga and other touch therapies are planned to join the growing menu of services that already include massage therapy, pet therapy, music therapy, mind and body groups, support groups and services from our dedicated dietician, social worker and chaplain. Integrative therapies being offered are known to be safe and effective and can be used concurrently with standard medical care to improve patients' quality of life during and after treatment.

The Redesign of Chemotherapy

Cancer patients can spend a lot of time in chemotherapy treatment—anywhere from one to eight hours in a day. When the Cancer Institute's chemotherapy area was being designed, focus groups consisting of current patients, cancer survivors and family members participated in the process. One result was the new chemotherapy coves, generously funded by the Bruce and Brandy Pearl family. The fourth floor of the Cancer Institute has six coves with names (such as Birch and Fern) that invoke the inviting calm of nature. Each cove is furnished with six chairs for patients, as well as a comfortable family chair, privacy curtains, televisions, storage and light fixtures that give off a soft, warm glow.

The chemotherapy coves have slate- and bamboo-patterned vinyl floors, touches of weathered wood and sunburst wall coverings. For safety, each chair is equipped with oxygen and a nurse call button. In addition, the Cancer Institute now offers four private treatment rooms. The waiting area for families and visitors is decorated in

warm blue, natural stone and chocolate brown; added privacy comes from divider panels made of Plexiglas and real twigs. John L. Bell, MD, and family graciously donated funds for the waiting area that features a beautiful aquarium that welcomes visitors to the fourth floor.

From Exam Rooms to Exam Suites

Other features of the fourth floor include the pleasing, efficient layout and design of the four exam suites. Each suite, named by a focus group of Cancer Institute patients or families, has eight rooms decorated with artwork reflecting the suite's name (Meadow Suite, Waterfall Suite, Sunlight Suite, and so on). Behind the exam rooms is a unique feature—a staff hallway that holds 36 workstations and bridges the exam suites to the chemotherapy coves. For waiting patients, this keeps the busy staff areas out of view and makes for a more relaxing experience, while allowing physicians and nurses to consult and work together more efficiently to provide better patient care.

Presenting New Innovations

The new Cancer Institute houses a new PET/CT imaging platform offering the latest advances in this equipment (pictured above). Positron emission tomography (PET) and computerized tomography (CT) are both state-of-the-art imaging tools that allow physicians to pinpoint the location of cancer within the body, its size and structure before making treatment recommendations. By combining these two technologies into one, patients have the added benefit and confidence in a more accurate and complete diagnosis. Still to come to the Cancer Institute in early 2013 is the advanced Varian TrueBeam™ system. TrueBeam provides advanced technology and innovations to treat more patients and cancer types with radiotherapy. In conjunction with TrueBeam, the Cancer Institute has invested in Calypso software, also known as GPS for the body. Using this software and the TrueBeam system, radiation oncologists are able to track the progress of treatment and pinpoint the cancer's location while minimizing unwanted radiation exposure to adjacent healthy tissues. Both technologies combined with non-invasive procedures like CyberKnife, create a comprehensive solution to cancer treatment and tracking in less time than traditional therapy. With the patient's experience and comfort in mind, the Cancer Institute continues to deliver innovative treatment options under one roof and close to home. ■



Scan code to tour the new Cancer Institute.
<http://www.utmedicalcenter.org/cancer-institute-pictures>



Top: A staff hallway consisting of 36 workstations for medical staff was strategically placed on the 4th floor of the Cancer Institute. Bottom: Surgical oncologist Keith D. Gray, MD, meets with a breast cancer patient for a follow up exam.

Breast Center

The Breast Center at The University of Tennessee Medical Center Cancer Institute treats every patient with personalized attention fortified by the latest technology. The new location enables us to offer our patients enhanced care and clinical services. These are provided in attractive surroundings featuring cherry-blossom wall décor, framed sconces and warm fabric lining the halls and exam rooms. Many women feel anxious when they visit the Breast Center; the patient waiting area, with its floral artwork and light sheer curtains, is designed to provide an elegant, soothing environment—often described similar to a spa. Professional, compassionate and caring service is the Breast Center's trademark.

Radiation Oncology

Radiation Oncology's new location in the Cancer Institute will eliminate any travel time that currently separates it from all other outpatient cancer services located in the new facility. Robert J. Bertoli, MD, radiation oncologist at the Cancer Institute says, "Its location puts all cancer treatments under one roof resulting in increased support, improved care, coordination and much more ease and convenience for patients throughout their cancer treatment." In early 2013, patients who are receiving radiation therapy daily can park right outside the service area, walk in and receive treatment. Although Radiation Oncology is located on the first floor, it has its own entry and waiting area for patients' convenience. A radiation oncologist, physicist and nurse are always on-site when radiation treatments are being administered by a team of experienced radiation therapists.

➤ Visit UTMEDICALCENTER.ORG for more information.

A Survivor's Determination to *Conquer Cancer*

By Bonnie Horner

In January 2011, 52-year-old Dottie Arnett was teaching her second-grade class and planning a vacation with her husband. She loved working with children, and to Dottie it really wasn't a "job." But something unexpected happened. When she scheduled her annual mammogram screening, the results showed she had Stage II breast cancer.

Dottie experienced no signs or symptoms of cancer nor did it run in her family. When her diagnosis was announced, "It was devastating to hear the C-word," says Dottie. She and her husband, Foster, were stunned by the news, but their determination to beat cancer never weakened.

As her surgeon, John L. Bell, MD, explained the stage of her cancer put her right on the line between having surgery and radiation therapy, or receiving a double mastectomy with possible chemotherapy. During her first visit, Dottie recalls, "Dr. Bell asked me, 'What do you want out of these treatment options?' and I said 'peace of mind of being cancer free. He told me he wanted, 'Survival.'"

After consulting with Bell, her husband and with oncologist Susan Newman, MD, Dottie made the decision to have both breasts removed and receive chemotherapy.

In less than a month after she was diagnosed with Stage II breast cancer, she had double-mastectomy surgery and received several treatments of chemotherapy. Her world had changed, but never did she lose hope for the future. "I never had any doubts that I would

survive and live a long and healthy life," says Dottie.

In May 2012, after 31 years of teaching elementary school, she decided to retire and spend time with her family, travel and simply enjoy life. Now, as a preschool teacher at Sequoyah Hills Presbyterian Church, she says her biggest source of stress is getting to school before eight-thirty in the morning (as her husband laughs and says that they live less than a mile from the school).

"Because of this experience, I have an extended family. My doctors here at the Cancer Institute put their heart and soul into my treatment. I am so blessed to have the support from so many wonderful people," says Dottie.

In fact, after Dottie's diagnosis, Sequoyah Elementary School donated its past two walk-a-thon monies to the Cancer Institute. "If there were any way to make the best out of cancer, the Cancer Institute made it an exceptional experience," says Dottie.

With treatment behind her, Dottie continues to live her life full of hope and determination. She's now cancer free and continues to teach preschool and enjoys time with her students and colleagues who she says are part of her work family. Dottie sees her doctors every few months for follow-up tests to make sure she remains cancer free. And, together with the Cancer Institute, she looks forward to the future. Her story of unwavering hope and determination serves as an inspirational story to many. ■



Cancer Education Across Specialties:

What Residents and Fellows are Learning



William Metheny, PhD

Almost 200 doctors and dentists choose UT Graduate School of Medicine for their residency and fellowship programs. One reason so many top candidates choose the institution is virtually all will gain knowledge of cancer applicable to improving patient care now and as they care for patients in the future.

By **Amanda F. Johnson**

“About 30 percent of cancer deaths are due to five major behavioral and dietary risks, so it’s all the more important for residents and fellows in all specialties to be trained in preventive medicine, learn to recognize signs and symptoms of cancer and understand the pathophysiology associated with various cancers,” says William Metheny, PhD, the assistant dean for Graduate Medical and Dental Education,

Valued members of the healthcare team, residents and fellows bring important layers of expertise to the patient-care setting, and as they gain in knowledge about cancer, these physicians enhance the quality of care at this academic medical center. Residents and fellows experience and reinforce the common themes of the robust educational programs, which include treating cancer through a multidisciplinary approach and doing what’s right for the patient.

Radiology



Kathleen Hudson, MD

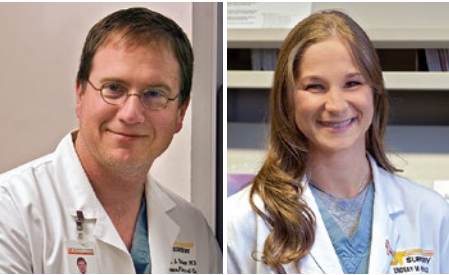
Austin Bourgeois, MD

“The faculty and residents in Radiology participate in multidisciplinary conferences with discussion of imaging findings and correlation with the clinical and pathological findings,” says Kathleen Hudson, MD, program director of the residency program. “Residents learn radiology plays a vital role in diagnosis, treatment and monitoring of treatment success in oncology patients.”

“We become familiar with common sites of metastasis as well as the appearance of cancer on multiple modalities, such as PET, CT, MRI and others,” says Katherine Frederick-Dyer, MD, a second-year Radiology resident.

“Interventional radiology residents play an important role of problem solving for our patients and assist with ground-breaking oncologic research,” says second-year Radiology resident Austin Bourgeois, MD.

General Surgery



Brian Daley, MD

Lindsay Fish, MD

“Understanding the biology and physiology of the many types of cancer and knowing options available for treatment and outcomes from such measures are integral components to providing the best surgical care for our patients,” says Brian Daley, MD, the General Surgery residency program director.

“It’s important for a surgical resident to have exposure to a multidisciplinary approach to managing cancer,” says Lindsay Fish, MD, who is a third-year resident in General Surgery. “Our training in surgical oncology includes exposure to cancers such as lung, breast and skin, and we see complex cancer cases that require complicated management decisions.”

Internal Medicine



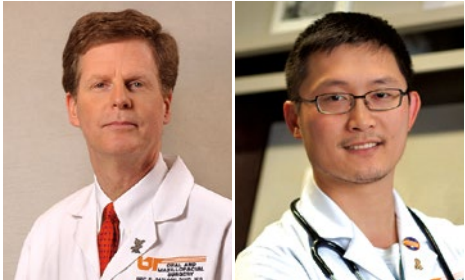
Mark Rasnake, MD

Shane Kelley, MD

“Cancer care is an important part of Internal Medicine residency training,” says Mark Rasnake, MD, the Internal Medicine residency program director. “Our program teaches residents the entire spectrum of care, from prevention to follow-up.”

“Our oncology rotation teaches us not only signs, symptoms, biomarkers, diagnostic tests and treatment options, but we also learn about helping patients through such trying processes,” says Shane Kelley, MD, the chief resident in Internal Medicine. “These experiences allow us to connect with patients on a far greater level than just the scientific aspect of medicine.”

Oral/Head and Neck Oncologic Surgery



Eric Carlson, DMD, MD

Andrew Lee, MD, DDS

In a program unlike any other in the country, fellows in the Oral/Head and Neck Oncologic Surgery program participate in patient-care planning conferences, bringing the collective wisdom of many specialties to bear on patient care. “The fellows receive a comprehensive education in diagnosis, management and surgical techniques for our patients,” says Eric Carlson, DMD, MD, the program director of the Oral/Head and Neck fellowship program. “Moreover, they learn how to care for the dying patient and the grieving family.”

Andrew Lee, MD, DDS, a fellow in the program, says, “It’s relatively easy to remove cancer, but learning how to collaborate with primary care physicians, surgeons and oncology specialists is important for managing the spectrum of care for our cancer patients.”

Obstetrics and Gynecology



Larry Kilgore, MD

Mitch Dizon, MD

Cheryl Onwuchuruba, MD

In the Division of Gynecologic Oncology, Larry Kilgore, MD, a professor, and Kristopher Kimball, MD, an assistant professor, train medical students, residents from the Department of Obstetrics and Gynecology, nurses and other professionals. “We provide opportunities to learn cancer care, screenings and risk assessment and reduction,” Kilgore says. “At the end of their time with us, residents know signs and symptoms and proper screening protocols of all cancers, and OB/GYN residents can diagnose using breast exams, Pap smears and pelvic exams.”

“All women are at risk for developing gynecologic cancer, so it’s important for us to recognize signs and symptoms to provide the best care possible,” says Mitch Dizon, MD, a third-year resident in Obstetrics and Gynecology. “And we learn how cancer affects a woman’s life.”

Cheryl Onwuchuruba, MD, also a third-year OB/GYN resident, agrees. “The integration of cancer into our curriculum teaches us how to relate with people and their families beyond diagnoses and treatments. We are learning how to be advocates for our patients.” ■

Residents and fellows at the UT Graduate School of Medicine gain knowledge of cancer care as part of their curricula, but each comes away from this educational experience with more: an understanding of not just the pathophysiology of cancer but also how it affects a life.

➤ Visit [HTTP://GSM.UTMCK.EDU](http://GSM.UTMCK.EDU) for more information.

Research at an Academic Medical Center:

Translating Investigation to Improved Care for Patients

By **Amanda F. Johnson**

Basic-science research looks at processes at the cellular level, the smallest beginnings of medical issues. Clinical research investigates how illnesses impact people and how advances in treatment can make a difference. At an academic medical center, both types of research come together to translate to improved care for patients. Through a stubborn pursuit of knowledge, researchers in laboratories and in exam rooms at The University of Tennessee Medical Center and UT Graduate School of Medicine increase their understanding of the human condition, bringing about more compassion and targeted treatment options for people in our region and across the world.

In My Words Coming Full Circle with Cancer

By **Mitchell H. Goldman, MD**



Research gives physicians an opportunity to more effectively help patients. When we aren't content with how effective we are, we start asking why. The results can change a life.

These are the words and perspective of Mitchell Goldman, MD, the chair of the Department of Surgery and assistant dean for Research at the UT Graduate School of Medicine. He oversees the diverse research programs at the institution, which in addition to cancer research, include studies in anesthesiology, nutrition, wound healing, Alzheimer's disease, Huntington's disease, vascular disease, concussion and more. His passion for cancer research spans a lifetime.

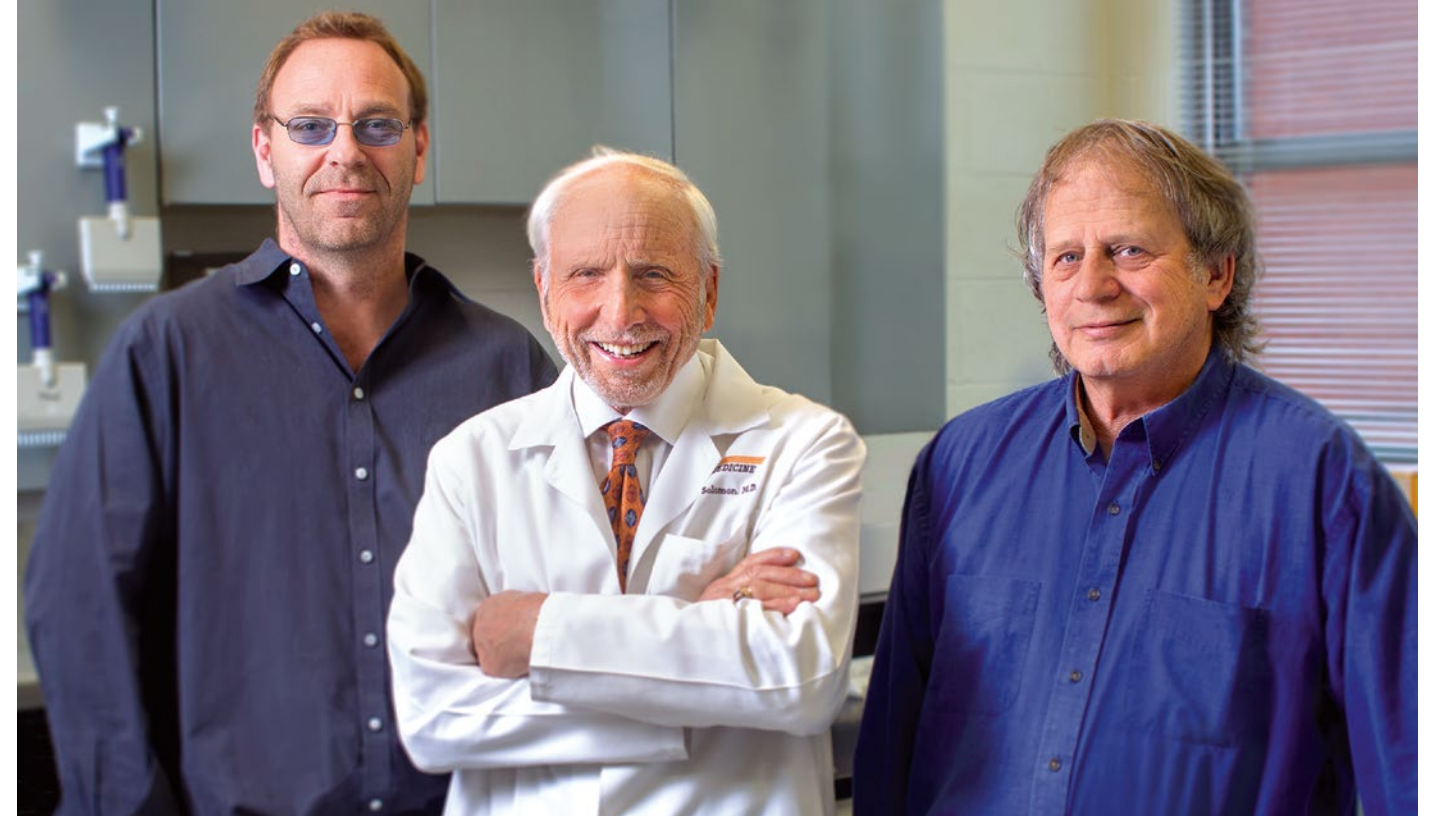
When I was 11 years old, I was diagnosed with acute lymphocytic leukemia, but thankfully, further examination

showed severe infectious mononucleosis instead. That experience defined the direction of my life.

In my residency, I studied under Judah Folkman, MD, who discovered tumor angiogenesis factor, a cancer treatment used today. Folkman believed the best way to help patients is by taking their clinical problems to the lab and coming back with answers. I have embraced that philosophy for 30 years, and today, in my role as assistant dean for research, I'm pleased to have come full circle: Looking cancer in the eye. But this time, I'm not an 11-year-old child wondering what a cancer diagnosis might mean. Today, I am part of a vigorous research enterprise anticipating how we can make a difference for cancer patients.

Sometimes, research doesn't find a solution, but it always finds an answer. The negative answer allows others to go the right way. Each step in the process is part of the whole context of medical research, and the sum of all of our efforts will come together to lead a researcher somewhere to a promising finding, a result that will impact the health of patients.

Collaboration accelerates our ability to make those findings possible and that improved care probable. We cannot deliver answers without collaboration, nor can we be successful in our research without funding. While grants and institutional funds represent a portion of funding, many of the major advances in medicine have come from private funding and foundation grants working together. We need it all. Sufficient funding and collaboration will continue to bring answers for our patients.



Jonathan Wall, PhD, Alan Solomon, MD, and Daniel Kestler, PhD, lead some of the basic-science research at the UT Graduate School of Medicine. They and others investigate the essence of cancer and other diseases, so answers can be found and treatments can be translated to patient care.

Basic-Science Research Laboratories: UT Graduate School of Medicine

ODAM Protein Laboratory

The Molecular Biology and Oncology Laboratory is focusing on identifying how a novel protein, the Odontogenic Ameloblast associated protein (ODAM) that was first discovered in a dental tumor could serve as a tumor biomarker to signify stages of some cancers and possibly play a role within malignancies. Created by a gene previously not known to encode a protein, the ODA protein was discovered by Alan Solomon, MD. The findings of the current research led by Daniel Kestler, PhD, could improve the diagnosis and treatment of breast, lung, gastrointestinal, skin and other cancers. Much of this work is funded by the Susan G. Komen Foundation through an investigator grant to Kestler as well as by the Physicians Medical Research Foundation.

Human Immunology and Cancer Program

The Human Immunology and Cancer Program is a basic and clinical endeavor advancing understanding of the pathogenesis of primary amyloidosis. It identifies the protein components responsible for the disorder and develops innovative diagnostic and therapeutic means to eventually diminish or eradicate the calamitous effects of the disease. Because certain maladies, such as Alzheimer's disease, also are caused by the abnormal deposition of proteins, researchers anticipate benefits to individuals with these conditions, as well. The research is led by Alan Solomon, MD, a professor in the Department of Medicine.

Molecular Imaging and Translational Research Program

Researchers in the Molecular Imaging and Translational Research Program advance translational molecular imaging research, education and novel biomarker development for preclinical and clinical imaging studies. The program has as an immediate objective: the assessment of the role of combined positron emission tomography/computed tomography (PET/CT) imaging for a range of different cancers. The translational research component is directed by Amy LeBlanc, DVM, an associate professor in Medicine and Radiology.

Preclinical and Diagnostic Molecular Imaging Laboratory

The Preclinical and Diagnostic Molecular Imaging Laboratory facilitates the translation of novel therapies and diagnostic agents into patient care by providing proof-of-principle data in animal models of disease. The laboratory focuses on research into amyloid-associated disorders, cancer, atherosclerosis and diagnostic veterinary imaging and is directed by Jonathan S. Wall, PhD, a professor in the Department of Medicine. ►►

James Lewis, MD, and Eric Carlson, DMD, MD, represent the vigorous clinical research activities at the UT Graduate School of Medicine and The University of Tennessee Medical Center.

Clinical and Other Cancer Research

In addition to basic-science research conducted in laboratories, physicians and scientists are conducting clinical research to advance knowledge of prevention, diagnosis and treatment of cancer.

Eric Carlson, DMD, MD, the chair of Oral and Maxillofacial Surgery, is conducting clinical research on the possible association between oral cancer and intimate oral contact. For more than 10 years, Carlson has seen an increase in diagnoses of squamous cell carcinoma of the tongue in non-tobacco-using young men. He believes the cancer might be caused by human papillomavirus (HPV), a DNA virus known to cause cervical cancer in women. Upon clinical investigation, Carlson found HPV in more than half of the tumors, and further research indicates that HPV is likely transmitted through intimate oral contact.

Carlson is also leading a diagnostic study to determine the value of PET/CT scans for oral/head and neck cancer. The study involves using two tracers, FLT and FDG, to image lymph nodes of the neck in patients. If PET/CT can accurately predict the presence or absence of metastatic cancer within the nodes, surgeons can provide more precise cancer surgery for these patients.

James Lewis, MD, an assistant professor in the Division of Surgical Oncology, is leading clinical research that exemplifies collaboration between clinic and lab. He and his team discovered that with 75% of patients who had sentinel nodes that were positive for melanoma, ODAM protein was found in the main tumor. He and Daniel Kestler, PhD, who is leading basic-science research in ODAM properties, are working together to determine the association between ODAM and melanoma. Patients with melanoma might benefit from this translational research, and he and Kestler will continue to investigate whether ODAM can predict metastasis.



Examples of these clinical and research programs are:

- The reliability of PET/CT to identify metastatic cervical lymph nodes in patients with oral/head and neck cancer
- BRAF mutation analysis for detection of papillary thyroid carcinoma in fine-needle aspirates
- Sufficient histologic sampling of partial mastectomy specimens with gross lesions to determine margin status
- The effects of Zylamend™ to slow or halt the progression of prostate cancer.

Many more examples exist because that's what an academic medical center is all about: relentlessly investigating, learning and using inquisitiveness and wisdom developed through experience to find better ways to care for patients. ■

➤ Visit [HTTP://GSM.UTMCK.EDU](http://GSM.UTMCK.EDU) for more information.



To fight a rare kidney cancer, Fred Dailey (center) participated in a clinical trial directed by Wahid Hanna, MD, (left), and coordinated by Randi Ray, RN, BSN, OCN, (right).

Clinical Trials: *Fred Dailey's Journey*

By **Amanda F. Johnson**

The University of Tennessee Medical Center Cancer Institute actively pursues clinical trials to investigate prevention and treatment of breast, gastrointestinal, genitourinary, gynecologic, head and neck, blood, lung, skin, pancreatic, prostate, sarcoma and other cancers. Trials are monitored by the Institutional Review Board, a group of medical professionals and community representatives who ensure stringent adherence to federal regulations and protection for trial volunteers.

"I'm thankful for every patient who has seized the opportunity to take part in a clinical trial," says Wahid Hanna, MD, a professor in the Department of Medicine and chief of The University of Tennessee Medical Center's Hematology/Oncology Division. "Patients help pave the way for the future—a future that might be cancer free."

One patient who seized the opportunity is Fred Dailey. Dailey and his wife, Sallie, live in Winchester, Kentucky, about 170 miles from Knoxville. In August 2011, during a visit to an emergency room near their home for what they thought was an ulcer, they heard difficult news: the scan showed a mass on his kidney. Dailey had cancer.

"We were stunned. We wondered how this could happen," Dailey recalls. "We asked, 'Where do we go from here?'"

His surgeon performed a radical nephrectomy, and the official diagnosis was chromophobe renal cell carcinoma, a very rare kidney cancer that is unaffected by radiation therapy or standard chemotherapy. ■

➤ Visit [HTTP://GSM.UTMCK.EDU](http://GSM.UTMCK.EDU) for more information.

Our Commitment To Serve Outside These Walls

Community Outreach

By Bonnie Horner

As a leader in healthcare, we have the responsibility and desire to provide excellent healthcare services to the communities we serve. But our mission goes beyond just diagnosing and treating cancer. As an academic medical center, we are also committed to providing education to patients, healthcare professionals and our community as unique as the individuals themselves. Not only within the walls of the Cancer Institute, but extended throughout the region. Why, one might ask? Although excellent patient care is essential, we think it is just as important to provide preventive health education, early detection programs and services within the community to promote the health and personal wellness of all persons in our region.

The Cancer Institute deploys various community events, educational seminars and screenings throughout the year to promote the importance of prevention and early detection. Although cancer is becoming more prevalent, if found and treated early, more lives will be saved from cancer each year.

➤ Visit UTMEDICALCENTER.ORG for more information.



Prostate Cancer Screening

Prostate cancer screenings are available year-round, but during Prostate Cancer Awareness Month each September, physicians and staff from the Cancer Institute offer a number of free screenings across the region. Early detection and awareness events such as The Man Run, The Man Ride, Real Men Wear Gowns and the Blue Hat Guys Luncheon are supported by the Cancer Institute to help raise awareness and funds to support community based prostate cancer education programs and free screening services.

Breast Cancer Screening

Health professionals from the Cancer Institute’s Breast Center offer both on-site and mobile mammography screening services. The Breast Health Outreach Program, also known as BHOP, is a unique grant-funded program essential to women who do not have access to breast health education and screenings. Through this program, women from the region have access to digital screening mammograms in the medical center’s state-of-the-art mobile mammography unit. Free clinical breast exams are provided by a certified and registered nurse at locations with the greatest need. Providing screenings where women work, live and worship removes barriers such as time off from work, childcare and transportation issues that often prevent women from being screened.



Skin Cancer Screening

The Cancer Institute’s SunScreeners program provides the community with free skin cancer screenings and educational tools to prevent cancer. James Lewis, MD, a surgical oncologist at the Cancer Institute, leads the effort to raise skin cancer awareness and the importance of early detection and prevention. Through The University of Tennessee Medical Center’s Cancer Institute, community outreach programs such as SunScreeners, allow the public easy access to free skin cancer screenings from experienced and specialized healthcare professionals.

The Cancer Institute provides advanced treatments, fast answers, expert health professionals and the best personalized care, so patients never feel as if they are going through cancer alone. This individualized and coordinated cancer care along with expanding community services make the Cancer Institute a leader in the region. ■



Close-to-Home Cancer Care

The University of Tennessee Medical Center Cancer Institute is now offering medical oncology services in several communities throughout East Tennessee. Patients can schedule office visits with their medical oncologist and receive chemotherapy infusion services in a convenient and close location. Patients can be assured that they will receive the

same quality and compassionate care at all Cancer Institute locations in the region. Medical oncologists do more than just prescribe medications to treat cancer. They often play a pivotal role in coordinating care for patients from the moment of diagnosis throughout the course of the disease and survivorship.

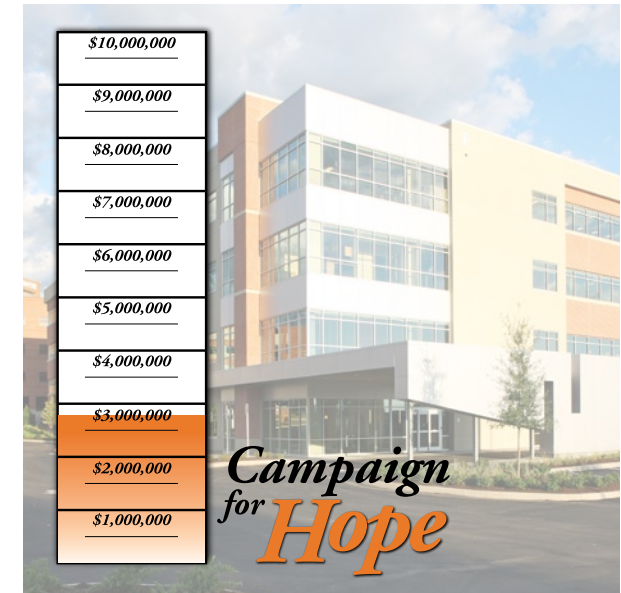
To serve patients in other areas of the region, our medical oncologists have offices in Morristown, Maryville, Sevierville and Loudon, Tennessee. Each location is staffed with a team of skilled, experienced cancer care professionals dedicated to the comprehensive support and treatment of patients with cancer. Now cancer care is even closer to home.

Campaign for *Hope*

The new Cancer Institute held its official grand opening on October 16, 2012, with the help and support of our donors, who have given more than \$2.8 million to make this vision a reality. Thank you to everyone who has been part of the *Campaign for Hope* so far!

The campaign continues as we work to reach our goal of \$10 million. These funds will pay for so much more than the facility itself, including:

- The relocation of Radiation Oncology
- New equipment, such as the latest in radiation oncology linear accelerators and robotic technology
- Expanded research and clinical trials, so our patients will have access to the very latest drugs and treatments
- Two endowed chairs for the Cancer Institute to help attract more cancer specialists who are the “best of the best”



If you are interested in contributing to the *Campaign for Hope*, including the Wall of Hope, please contact the Development Office at 865-305-6611 or development@utmck.edu.



The new Cancer Institute is a beautiful facility at which our patients can fight cancer and find hope for tomorrow and many days after it. The *Campaign for Hope* will help ensure that they have even more reason to expect a bright future.

The Wall of Hope is a unique display of inspiration and dedications from our donors who have given \$1,000 or more to the *Campaign for Hope*. Metallic glass tiles shine as brightly as the inscriptions on them and greet patients as they walk into the Cancer Institute.

Naming Opportunities

Naming opportunities in the *Campaign for Hope* exist at every level, from \$50 up. Community members can create inspiring messages to patients, make a dedication to a loved one or be recognized for a contribution to the fight against cancer through the opportunities listed below. Many more naming opportunities exist.

\$50	Recognition on the <i>Campaign for Hope</i> Web Page
\$250	Stitches of Hope Inscription
\$1,000	Wall of Hope Tile
\$10,000	Name a Consultation Room*
\$15,000	Name a Chemotherapy Chair*
\$25,000	Name a Procedure Room*
\$50,000	Name a Screening/Diagnostic Room*
\$100,000	Name a Chemotherapy Cove*

**Many other naming options exist at these levels.*

Uthrive 2 Survive

Uthrive 2 Survive is an organization dedicated to engaging the younger population of Knoxville in philanthropy through unique events. All of its proceeds benefit the Cancer Institute, and to date, the participants have raised more than \$33,000. Their latest event, Skydive 2 Survive, was a major contributor to this total, bringing in more than \$20,000.

In an effort to capture the courage and audacity it takes to conquer cancer, 18 brave souls raised money to jump out of



From left to right: Thad Cox, Janet Testerman-Crossley, Ben Testerman and Misha Testerman.

airplanes in support of their friends, family and loved ones with cancer. Think of it as a walk-a-thon for the Cancer Institute at 14,000 feet in the air. With a sponsorship of \$10,000 from Meadows and Ohly, the owners of the Cancer Institute facility, costs for the event and then some were fully covered. Many thanks to Meadows and Ohly for their sponsorship; Dead End BBQ for catering lunch; the Chillbillies for creating a festive atmosphere on the ground; and Skydive East Tennessee for getting jumpers up and down safely.



From left to right: Mike Del Aguaro, Erick Baker, Bruce Pearl, Scott Fitch, Donnie Reiss and Camp Koinania attendee Julianna Rechter.

More than 100 golfers turned out for the 7th annual Fore the Children Golf Tournament on Friday, October 19, 2012, at Gettysvue Polo, Golf & Country Club. Bruce Pearl, the tournament’s host, held a dinner the preceding evening at his home in the Gettysvue community, and the two events raised more than \$80,000. Proceeds will benefit the NICU Phase II renovation at The University of Tennessee Medical Center and the programs at Camp Koinonia.

Both causes nurture children in East Tennessee but in very different ways. The NICU Phase II renovation will continue the transformation of the medical center’s NICU into all single-bed units. Private rooms for premature newborns reduce the risk of infection and stress and have shown to help struggling babies heal faster. Camp Koinonia is a week-long residential, outdoor education program held for children from East Tennessee who have multiple disabilities. The camp was founded in 1977 by Dr. Gene A. Hayes, a professor at the University of Tennessee Department of Exercise, Sport and Leisure Studies.

Thanks to all sponsors and golfers who helped make Fore the Children such a success again this year.



Photo by Carrie Workman.

Stories of Hope

“Going in, I thought, this man is going to cut out half of my face. I can’t live like this,” says Nadine Goff of her surgery to remove head and neck cancer almost five years ago. Nadine felt like she was making a choice between identity and survival—either to undergo a potentially disfiguring surgery to give herself the best possible medical outcome, or to risk her health by opting for less invasive treatments. But that was not the case.

Stories of Hope is an email newsletter for friends, advocates and donors of the Cancer Institute. Each issue features a cancer patient’s story and tries to convey a different aspect of the cancer journey.

To read the full stories visit www.utmedicalcenter.org/hope. If you would like to share your story or sign up to receive the newsletter, contact development@utmck.edu.

Angels of Hope

Angels of Hope provides food baskets with gas gift cards, holiday food and more to cancer patients and their families. For a \$50 donation, a basket with your special message will be given to one of these patients during their time of need at The University of Tennessee Medical Center Cancer Institute.

For information about this year long holiday campaign, contact the Development Office, 865-305-6611.



The University of Tennessee Medical Center DOCÈRE SOCIETY



Under the leadership of Raymond Dieter, MD, and his committee, The Docère Society is an Annual Giving Society for the physician and faculty members of The University of Tennessee Medical Center and UT Graduate School of Medicine. Docère Society members are physicians who have pledged a \$10,000 gift to any fund at the medical center or Graduate School of Medicine to be paid over a maximum period of five years.

Docère, the root of the word doctor, means to teach in Latin. At our academic medical center, all of our physicians are also teachers, but those making donations through the Docère Society have made a unique commitment to future generations of medical staff.

The University of Tennessee Medical Center CEO and President Joe Landsman hosted the initial Docère Society fellowship gathering for all physicians on November 2, 2012, which had an attendance of more than 100 people. Fellowship events for all physicians will be held quarterly with varying themes and members-only events will eventually accompany them.

For more information about becoming a Docère Society member, please contact Rachel Greene in the Development Office, 865-305-6611.

The Docère Society Leadership Committee

Raymond Dieter, MD, Chair
Paul Branca, MD
Lisa Duncan, MD
Robert Elder, MD
Jerry Epps, MD
Susan Newman, MD
Jeffrey Johnson, MD
Garnetta Morin-Ducote, MD
H. Sperry Nelson, MD
Jeffrey Peeke, MD
Melissa Phillips, MD
David Rankin, MD
Amy Stevens, MD
Michael Walsh, MD
Wesley White, MD

FOR MORE INFORMATION about these stories or other philanthropic opportunities at The University of Tennessee Medical Center or UT Graduate School of Medicine, please contact the Development Office, 865-305-6611 or development@utmck.edu.



Simulated surgeries are one of the ways members of a healthcare team learn new skills in the University of Tennessee Center for Advanced Medical Simulation that result in improved patient care and safety. The center recently earned top accreditation, the only such accreditation in Tennessee.

Visit [HTTP://GSM.UTMCK.EDU](http://GSM.UTMCK.EDU) for more information.

Simulation Center Earns Top Accreditation

The University of Tennessee Center for Advanced Medical Simulation has earned Level I Comprehensive accreditation from the American College of Surgeons (ACS). The center, located at The University of Tennessee Medical Center under the guidance of the UT Graduate School of Medicine, is the only simulation center in the state of Tennessee to have earned this accreditation and is one of only 67 in the world.

Through the ACS Division of Education Accredited Education Institutes accreditation program, the Center for Advanced Medical Simulation received the designation of Comprehensive Education Institute, denoting the center's compliance with the most rigorous standards for accreditation:

- Serve a wider range of learners with a broader scope of education and training programs
- Develop original curricula and offer faculty development programs and courses
- Assess education and training programs' impact on patient outcomes and safety
- Have facilities to accommodate the higher volume of learners and scope of educational activities
- Engage in research or other scholarly activities that advance the field of surgical education and training.

The center is co-directed by Leonard Hines, MD, and Paul Huffstutter, MD, assistant professors at the Graduate School of Medicine. "Medical simulation provides members of the healthcare team the opportunity to learn and master skills and become familiar with advancing technology in a safe, risk-free environment, before accepting the challenge of patient care," says Hines.

Huffstutter agrees. "In promoting safer and higher quality healthcare, the center is a valuable asset to the region's medical community and the many patients served throughout this region," he says.

The 6,500-square-foot multidisciplinary facility offers a setting for healthcare providers throughout the region to improve individual skills and practice team skills critical to patient safety. It also enables advanced education for residents, fellows, and medical students from the Graduate School of Medicine and other institutions. In addition to virtual reality technology, the center also provides low- and mid-fidelity training equipment essential for refining skills for virtually all healthcare professionals.

For a video tour of the UT Center for Advanced Medical Simulation, visit utmedicalcenter.org/frontiers-videos/#tour.

Hello, I am Chemo Bear.

I am the mascot of The University of Tennessee Medical Center Cancer Institute. My home is in the chemotherapy infusion center, where I work with the outstanding staff, volunteers and patients of the Cancer Institute. My job is to provide comfort, support and encouragement. I have traveled the world in my effort to raise awareness about early cancer detection and prevention. My trips have included backpacking in Scotland, watching sunsets in Hawaii and enjoying the people and scenery in Japan and even Nova Scotia!



Spring 2013

Continuing Education Course Calendar

The University of Tennessee Graduate School of Medicine offers the following educational courses this spring for healthcare professionals seeking continuing education.

March 1-2

Approved for AMA, AAFC, AAPA and ACPE credits and CEUs

Annual Medicine Conference: Optimizing Patient Care for a Changing Population

UT Conference Center
Knoxville, Tennessee

www.tennessee.edu/cme/Medicine2013

March 16

Approved for AMA, AAFP, AAPA, ACPE, CPE credits and CEUs

Ninth Annual Diabetes Regional Conference: Providing Patient-Centered Diabetes Care

Hilton, Knoxville
Knoxville, Tennessee

www.tennessee.edu/cme/Diabetes2013

To register or for more information about these courses, call 865-305-9190 or visit our website at www.tennessee.edu/cme

Thank you for taking the time to get to know me and learning more about the benefits of the Cancer Institute. Please keep in touch by following me on Facebook!

Scan code to see more photos on my Facebook page!

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