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CONQUEST

Survivorship: The Next Step



THE UNIVERSITY OF TEXAS

MD Anderson
Cancer Center

Making Cancer History®

MISSION

The mission of The University of Texas MD Anderson Cancer Center is to eliminate cancer in Texas, the nation, and the world through outstanding programs that integrate patient care, research and prevention, and through education for undergraduate and graduate students, trainees, professionals, employees and the public.

VISION

We shall be the premier cancer center in the world, based on the excellence of our people, our research-driven patient care and our science.

We are Making Cancer History®.

CORE VALUES

Caring

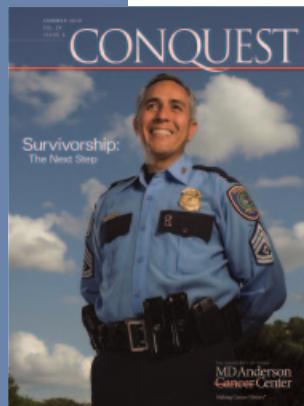
By our words and actions, we create a caring environment for everyone.

Integrity

We work together to merit the trust of our colleagues and those we serve.

Discovery

We embrace creativity and seek new knowledge.



On the cover: Sgt. George Alderete, who serves in the Houston Police Department, is one of more than 4,500 survivors who have been inducted into MD Anderson's growing Cancer Survivorship Program.

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FRONTLINE

CHEMO COMBO SHOWS PROMISE FOR ENDOMETRIAL PATIENTS

In a recent small study, patients with advanced or recurrent endometrial cancer showed a response rate of 50 percent when treated with a chemotherapy combination of gemcitabine and cisplatin.

Until now, survival rates have been low for this group of patients whose options have been either limited or ineffective chemotherapy and hormonal treatment.

This Phase II study of 20 patients found that the combination of these two chemotherapy drugs currently used to treat other types of cancer limited the disease's progression, increasing progression-free survival while maintaining tolerable toxicity levels. It is believed that when administered together, gemcitabine helps overcome cell resistance to cisplatin, throwing tumor cells a potent one-two punch.

"These results are encouraging, offering a new direction for our research for women who suffer from advanced disease," says Jubilee Brown, M.D., associate professor in MD Anderson's Department of Gynecologic Oncology and the study's lead author.

REPORTED IN MARCH AT A PLENARY SESSION OF THE SOCIETY OF GYNECOLOGIC ONCOLOGISTS' 41ST ANNUAL MEETING ON WOMEN'S CANCER.



Jubilee Brown, M.D. (left), associate professor, and Nicki Webb (right), advanced practice nurse, both in the Department of Gynecologic Oncology, take a moment to celebrate with Melissa Sepulveda, one of the endometrial cancer patients who benefited from a recent clinical trial using gemcitabine and cisplatin.

THE BATTLE IS ON

By Scott Merville

Advanced lung cancer is notoriously bulletproof against second-line chemotherapy, but MD Anderson researchers are sharpening their aim at the disease by better aligning therapeutic weapons with tumor targets.

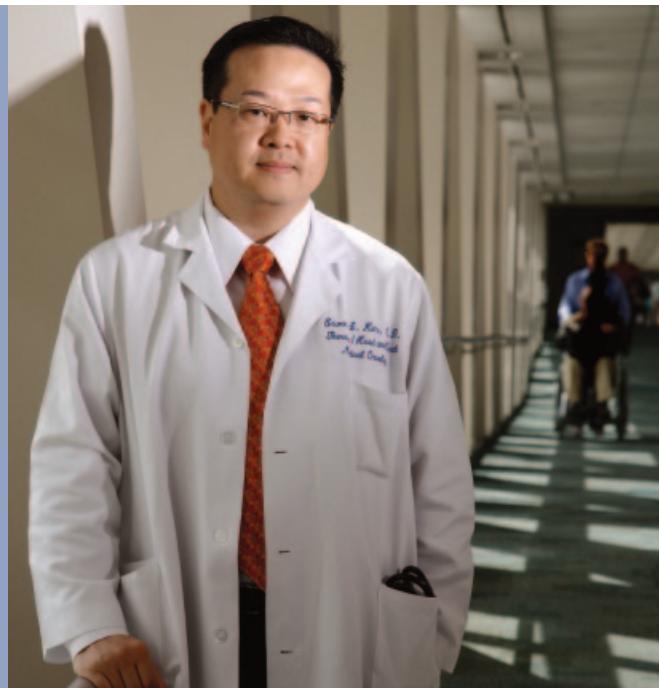
They've completed the first lung cancer clinical trial to guide treatment of patients based on their tumors' molecular characteristics, a step toward personalized care and more effective, efficient clinical trials for new drugs. The study used an innovative statistical model to match four drugs to specific molecular signatures, or biomarkers, in the tumors of 255 stage IV non-small cell lung cancer patients who had received between one and nine previous treatments.

"New drugs that target molecular pathways help a small percentage of lung cancer patients, but right now there's no way to determine who those patients are before treatment," says Edward Kim, M.D. (right), associate professor in MD Anderson's Department of Thoracic/Head and Neck Medical Oncology and principal investigator on the Biomarker-integrated Approaches of Targeted Therapy for Lung Cancer Elimination (BATTLE) clinical trials.

"Our goal is to make treatment of lung cancer, which kills more people than any other type of cancer, more like breast cancer, where validated tumor biomarkers guide treatment decisions and prolong survival," Kim says.

FIRST FORAYS ADD TO KNOWLEDGE

The Phase II trial found evidence that each of the four drugs targets specific molecular defects better than the other three. Trial drugs were erlotinib (Tarceva®), sorafenib (Nexavar®), vandetanib (Zactima®) and erlotinib with bexarotene (Targretin®). Each is designed to block specific molecular pathways; none has a validated biomarker to guide its use.



The study found that 61 percent of patients with a KRAS mutation in their tumors who took sorafenib had disease control at eight weeks, compared with 32 percent of those who took the other three drugs. Tumors with KRAS mutations are highly resistant to treatment.

Overall, 46 percent of patients on the trial had disease control at eight weeks, compared with a historical experience of 30 percent. Median overall survival was nine months, and 38 percent survived to one year.

Future BATTLE trials will test drug combinations and single agents in other lung cancer settings, including frontline therapy. Ultimately, the researchers plan to try the approach in prevention clinical trials.

REPORTED IN APRIL AT THE 101ST ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH.



See more about this study in Conquest online at www.mdanderson.org/conquest.

► **Post-mastectomy radiation may be unnecessary for patients with stage I and II breast cancer that has spread to only one lymph node. Research was conducted by Ranjna Sharma, M.D., fellow in MD Anderson's Department of Surgical Oncology. Reported in May in the online edition of the Annals of Surgical Oncology.**

NEW AVENUE FOR CHEMOPREVENTION

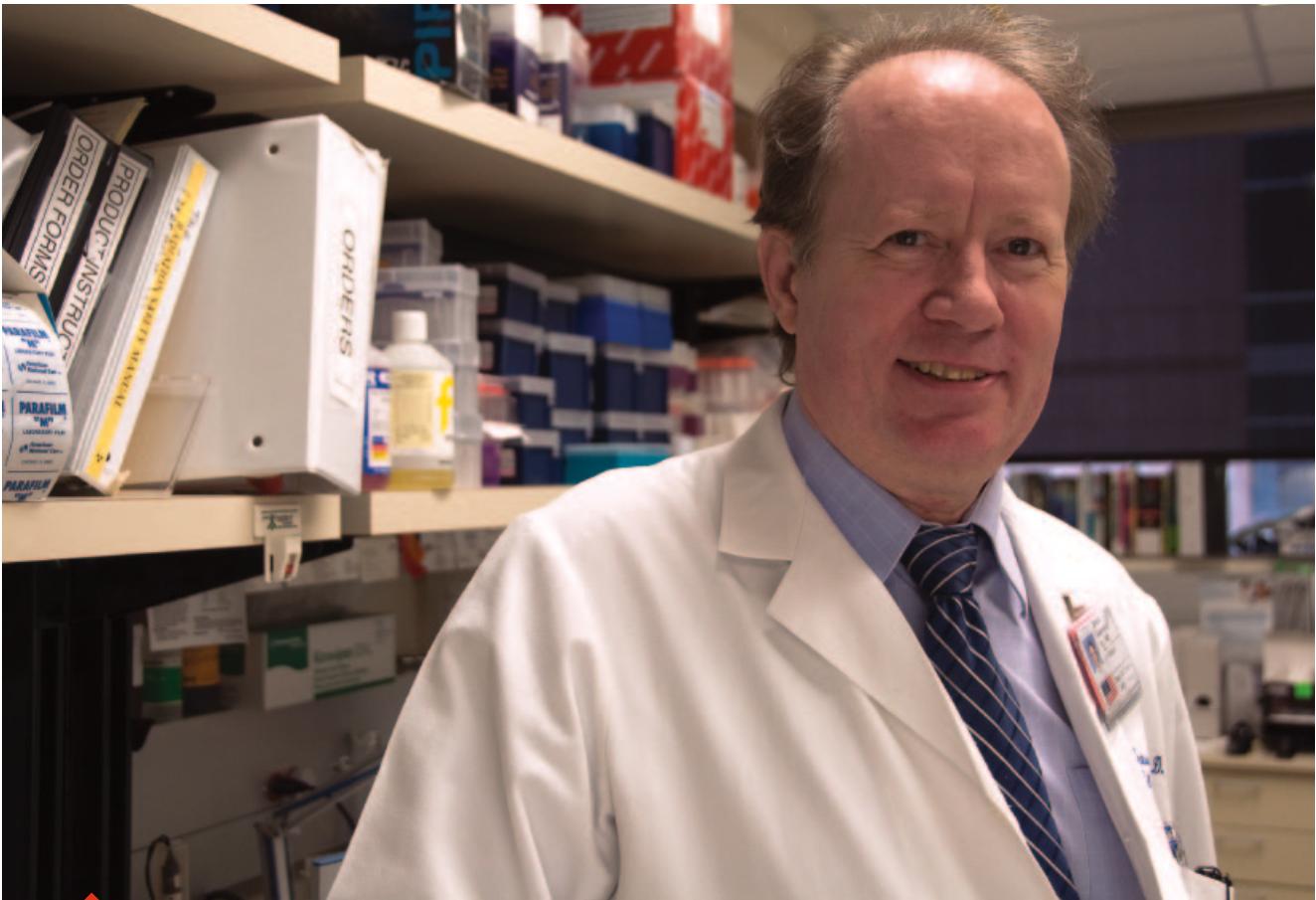
A two-drug combination destroys precancerous colon polyps with no effect on normal tissue, opening a new potential avenue for chemoprevention of colon cancer.

In a preclinical study, researchers found that a combination of vitamin A acetate (RAc) and TRAIL, short for tumor necrosis factor-related apoptosis-inducing ligand, kills precancerous polyps and inhibits tumor growth in mice that have deficiencies in a tumor-suppressor gene. That gene and its signaling molecules also are mutated or deficient in 80 percent of all human colon cancers.

A problem with chemopreventive drugs is that they must be taken continuously, long term to be effective. This exposes patients to possible side effects, says senior author Xiangwei Wu, Ph.D., associate professor in MD Anderson's Department of Head and Neck Surgery.

"This combination can be given short term and periodically to provide a long-term effect, which would be a new approach to chemoprevention," Wu says.

REPORTED IN MARCH IN THE ADVANCE ONLINE EDITION OF THE JOURNAL NATURE.



CLINICIAN'S MISSION LEADS TO IMPROVED OUTCOMES AND UT SYSTEM CHANCELLOR'S AWARD

Early in his career, Borje S. Andersson, M.D., Ph.D., believed in the potential of busulfan as a preparative agent in stem cell transplantation. The problem was its potency. In solid form it worked to help patients' bodies accept stem cells from outside donors. But swallowing the drug meant it had to pass through the digestive system where too much or too little could be absorbed by the liver.

When two of his patients died of liver failure in 1989-1990 due to the damage caused by this agent, he knew he had a mission.

"The problem was that no one had discovered how to dissolve busulfan and keep its effectiveness stable so that it could safely and predictably enter the blood stream with the same potency as the oral (pill) form," he says.

By 1993, Andersson, professor in MD Anderson's Department of Stem Cell Transplantation and Cellular Therapy, had found a way through animal studies to keep busulfan stable in solution. By 1995, the drug moved forward into Phase I and Phase II studies. And on Feb. 4, 1999, the U.S. Food and Drug Administration approved it for allogeneic (unrelated donor) stem cell transplants for chronic myeloid leukemia patients.

DRUG DRAMATICALLY CHANGED PATIENT OUTCOMES

Given to patients intravenously in combination with other drugs, commonly cyclophosphamide, or Fludara™ (fludarabine) or Clolar™ (clofarabine), busulfan has dramatically increased the safety of the transplant procedure. And it has reduced the risk of dying from complications in the first 100 days after transplant from about 30 percent to 40 percent to about 3 percent.

This pre-transplant treatment has received regulatory approval for use in 45 countries, with the drug available on a limited basis in an additional three countries. In 2008, worldwide sales of busulfan were approximately \$40 million with a royalty sharing benefit to MD Anderson, some of which is used to fund continued research.

For this remarkable achievement that has benefited thousands of patients, Andersson was honored in March with the 2010 Chancellor's Innovation and Entrepreneurship Award. Established to promote a culture of entrepreneurship throughout The University of Texas System, the award recognizes researchers who exemplify ingenuity, creativity and innovation in translating research into useful products and services.



WELL-DONE MEAT SERVED WITH RISK

People who eat meat frequently, especially meat that is well done or cooked at high temperatures, may have a higher chance of developing bladder cancer, according to a recent study.

“It’s well known that meat cooked at high temperatures generates heterocyclic amines (HCAs) that can cause cancer,” says Jie Lin, Ph.D. (right), assistant professor in MD Anderson’s Department of Epidemiology.

HCAs are products of interaction between amino acids, which are the foundation of proteins, and the chemical creatine, which is stored in muscles. They form when muscle meats, such as beef, pork, poultry or fish, are cooked at high temperatures.

With Xifeng Wu, M.D., Ph.D., professor in the Department of Epidemiology, as principal investigator, the study took place over 12 years, using a standardized questionnaire designed by the National Cancer Institute to gather information about each participant’s dietary habits.

The group with the highest red meat consumption had almost 1½ times the risk of developing bladder cancer as those who ate little red meat. Researchers also analyzed each participant’s DNA and discovered that people with seven or more unfavorable genotypes as well as high red meat intake were at almost five times the risk of bladder cancer.

REPORTED IN APRIL AT THE 101ST ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH.

FIGHT-OR-FLIGHT HORMONES HELP TUMOR CELLS ESCAPE

Chronic stress triggers a chain of molecular events that protects breakaway ovarian cancer cells from destruction.

In preclinical research, scientists found that heightened levels of the fight-or-flight stress hormones epinephrine and norepinephrine permit more malignant cells to safely leave the primary tumor, a necessary step in metastasis and cancer progression.

They also found that ovarian cancer patients face earlier mortality when a crucial protein activated by the hormones is present at high levels in their tumors and that patients with depression have higher levels of this activated protein.

Two promising approaches — directly silencing a crucial protein or using beta blockers to preempt its activation — worked in cell culture and mouse models, making them candidates for human use.

“Restoring cancer cells’ vulnerability to anoikis (a form of programmed cell death) would open a new avenue for suppressing tumor growth and metastasis,” says Anil Sood, M.D., professor in MD Anderson’s departments of Gynecologic Oncology and Cancer Biology and first author.

REPORTED IN THE MAY 3 ISSUE OF THE JOURNAL OF CLINICAL INVESTIGATION.

▶ **The National Osteoporosis Foundation has recognized the Lawrence Bone Disease Program of Texas for bringing together basic and clinical researchers and providing them with state-of-the-art tools to study bone diseases. Robert Gagel, M.D., professor and head of MD Anderson’s Division of Internal Medicine, is a co-director.**

▶ **A study shows that U.S. cancer centers recognize the importance of palliative care, although the depth, range and integration of programs and services widely vary. Research was conducted by David Hui, M.D., fellow in MD Anderson’s Department of Palliative Care and Symptom Management and lead author. Reported in the March 17 edition of the Journal of the American Medical Association.**

A BETTER PREDICTOR OF PEDIATRIC OUTCOMES

Using information from a common and simple complete blood count test may more accurately predict treatment outcomes in young leukemia patients.

This retrospective study illustrated that the minimal residual disease indicator and the absolute lymphocyte count together enable physicians to better predict which patients with acute lymphocytic leukemia will remain disease free and who will most likely relapse.

Not only do low lymphocyte counts predict poor outcome, but patients with high lymphocyte counts also have excellent outcomes, and clinicians may be able to reduce the amount of chemotherapy these patients receive.

“Our ultimate goal is to use these prognostic tools in the future to guide treatments for our patients,” says Patrick Zweidler-McKay, M.D., Ph.D., assistant professor at MD Anderson’s Children’s Cancer Hospital and first author. “If we know that a patient is at high risk for relapse from the beginning, then potentially we can adjust the treatment plan to a more aggressive therapy.”

REPORTED IN APRIL AT THE ANNUAL MEETING OF THE AMERICAN SOCIETY OF PEDIATRIC HEMATOLOGY/ONCOLOGY.



▶ **TIME magazine has named Larry Kwak, M.D., Ph.D., to its 2010 list of the 100 most influential people in the world. Professor and chair of MD Anderson’s Department of Lymphoma and Myeloma, Kwak is recognized for his 20-year commitment to the science of cancer vaccines, specifically a personalized therapy for follicular lymphoma, and is the first MD Anderson faculty member to receive this distinction.**

▶ **Early life exposure to ultraviolet A light does not cause melanoma in a fish model, making it unlikely that UVA exposure has contributed to the increased incidence of melanoma over the past 30 years. Research was conducted by David Mitchell, Ph.D., professor in MD Anderson’s Department of Carcinogenesis, Science Park-Research Division in Smithville, Texas. Reported in the online early edition of the Proceedings of the National Academy of Sciences.**

MORE GENETIC SECRETS REVEALED

A class of brain tumor that tends to emerge in younger patients, but is less aggressive than others, can be identified by examining DNA methylation of a specific set of genes. Patients with these glioblastomas survive longer after diagnosis than those with other types.

“Discovery of molecular factors that define subgroups of glioblastoma will help us identify new therapeutic options for patients,” says study co-senior author Ken Aldape, M.D., professor in MD Anderson’s Department of Pathology. “In this case, therapeutically altering the methylation state of the tumor’s genes might be a new avenue for treatment.”

Methylation is an epigenetic process that affects gene expression without damaging or altering the gene’s DNA sequence.

The Cancer Genome Atlas, whose colleagues collaborated with scientists at MD Anderson, is a joint initiative of the National Cancer Institute and the National Human Genome Research Institute to increase understanding of cancer genetics.

REPORTED IN APRIL IN THE ONLINE JOURNAL CANCER CELL.



NEW MEASUREMENT TOOL REMOVES BARRIERS

A new assessment tool helps clinicians measure the severity of symptoms that can complicate allogeneic (unrelated donor) stem cell transplantation. Called chronic graft-versus-host disease (cGVHD), these symptoms require close management for an indefinite period of time and cause physically debilitating side effects in 40 percent to 80 percent of allogeneic transplant patients. Inadequate diagnosis and assessment has long been a major barrier to successful treatment.

"There was a real need to develop this tool because cGVHD is a vexing side effect that can become a serious condition in a very short period of time. It threatens the success of the transplant and creates a dilemma for many patients who do not live near where they received their transplant or do not have access to a transplant specialist," says Loretta Williams, Ph.D., instructor in MD Anderson's Department of Symptom Research and lead author on the study.

"Now we can assess quickly in person or over the phone whether a patient has developed symptoms of cGVHD and make arrangements for the patient to receive further assessment and treatment if necessary."

REPORTED IN FEBRUARY AT THE 2010 BONE AND MARROW TRANSPLANT TANDEM MEETING.

NEW GUIDANCE FOR DECISIONS ON PREVENTIVE SURGERY

Contralateral prophylactic mastectomy (CPM), a preventive procedure to remove the unaffected breast in patients with disease in the other breast, may only offer a survival benefit to a subgroup of breast cancer patients age 50 and younger, who have early-stage disease and are estrogen-receptor negative. The majority of women may not benefit from the procedure.

The first population-based study to find an association between the procedure and survival in cancer patients offers evidence to the women making this often agonizing decision and the physicians responsible for their care.

"In our clinic, we've seen a dramatic increase in the number of women requesting CPM, and across the breast cancer community, studies have shown that the use of the procedure is skyrocketing," says Isabelle Bedrosian, M.D., assistant professor in MD Anderson's Department of Surgical Oncology and the study's co-corresponding author.

"Until now, we've counseled these patients on a very important personal decision in a vacuum," she says. "With our study, our goal was to understand the implications of the surgery and who may benefit."

REPORTED IN THE MARCH 17 ISSUE OF THE JOURNAL OF THE NATIONAL CANCER INSTITUTE.



Hear more about this study in Conquest
podcast online at www.mdanderson.org/conquest.

Sgt. George Alderete, a 32-year veteran of the Houston Police Department — 12 of which were spent in the Homicide Division — has witnessed a side of death that few people see.



Survivorship: the next step



By Julie Penne

But as an eight-year kidney cancer survivor, Alderete shares a perspective on life that more than 12 million people nationwide — and 20,000 survivors at MD Anderson — like him relish.

Alderete, who also is a middle school and high school softball coach, athlete, husband and father of two daughters, is one of more than 4,500 survivors who have been inducted into MD Anderson's growing Cancer Survivorship Program. He also is among the first survivors to be seen in the Genitourinary Survivorship Clinic — one of the original three survivorship clinics established — where he is monitored for possible recurrence or progression and watched for late effects.

Each cancer journey personal

“Three years ago when I hit the five-year mark, my surgeon, Dr. Christopher Wood, suggested that it might be time to consider moving my care to the survivorship clinic that had opened down another hallway,” Alderete says. “That really hit me, and it was then that I realized I was a survivor.”

For Alderete, the epiphany of survivorship came with a physical transition to another clinic. But for other survivors, their own definition is as personal as their cancer journeys.

“All patients diagnosed with cancer are survivors from the time of their diagnosis, but there are three distinct phases of survivorship: living through, with and beyond cancer,” says Alma Rodriguez, M.D., professor in the Department of Lymphoma and vice president for medical affairs.

The good news is that the number of cancer survivors has increased significantly in the last decade and is expected to reach 20 million by 2020.

“Survivors have had successful treatment to cure their cancer, yes, but chemotherapy, radiation, stem cell transplants, surgery, immunotherapies and clinical trials often lead to significant late effects and that’s where the survivorship program comes in,” she says. “No longer is it enough to give effective treatment and then wish the patients well after declaring them disease-free. We have an obligation to the patients we have diagnosed, treated and supported through a long, arduous journey.”

Sgt. George Alderete, an eight-year kidney cancer survivor, is thankful for every day with his daughters, Jennifer (left) and Stephanie (not pictured), both students at Texas A&M University, and wife, Frannie (right).



Alma Rodriguez, M.D. (left), vice president for medical affairs, and **Fran Zandstra**, an oncology nurse and director of the Cancer Survivorship Program, meet frequently to discuss the program's direction and growth.

Found in transition

MD Anderson is among a number of cancer centers nationwide that have embraced survivorship as a component of the cancer care cycle. In 2005, after the Institute of Medicine published its landmark report, "From Patient to Cancer Survivor: Lost in Transition," MD Anderson President John Mendelsohn, M.D., charged an internal task force with developing a survivorship program to address the extensive physical, emotional and social needs of this growing group. It is a population that has been increasing since the cusp of the new century, and the national ranks are expected to swell to 20 million by 2020 as progress against cancer continues.

To date, seven MD Anderson clinics are the front line and foundation for the evolving institutional program that includes research and education. In these clinics — six for adults and one for pediatric patients — specialized faculty and/or advanced practice nurses meet with survivors, check for signs of recurrence and address issues related to the consequences of treatment.

Since 2008, more than 4,500 survivors have been seen in clinics dedicated to breast, genitourinary, gynecologic, head and neck and endocrine (thyroid) cancers, as well as recipients

Areas for focused care

From the original plan came four areas of focus for MD Anderson's Survivorship Program: monitoring the disease, tracking late effects, early detection/preventing secondary cancers and addressing psychosocial needs.

of allogeneic (unrelated donor) stem cell transplants. Another 1,600 survivors will be seen in those clinics in the near future.

New clinics are due to open later this year for colon cancer and lymphoma survivors, and other clinics will come on line over the next few years.

Beyond the main campus

Hundreds of other survivors are seen in adapted programs at the MD Anderson Regional Care Center in the Bay Area and the Harris County Hospital District's Lyndon Baines Johnson Hospital, where MD Anderson faculty oversee the cancer care.

Each of the survivorship clinics has its own set of tailored guidelines. These algorithms were developed by clinical teams who know best the treatments and potential late effects for specific

disease sites, along with representatives from Chaplaincy, Integrative Medicine, Social Work, Psychiatry, Pain Management, Clinical Nutrition, Clinical Cancer Prevention and others who know well the social and emotional aspects of cancer.

For example, Mouhammed Habra,

“All patients diagnosed with cancer are survivors from the time of their diagnosis, but there are three distinct phases of survivorship: living through, with and beyond cancer.”

— Alma Rodriguez, M.D., vice president for medical affairs

M.D., and Advanced Practice Nurse Sherrie Flores, who team up to oversee the Thyroid Survivorship Clinic, identify potential complications from prior cancer therapy, such as

dry mouth, loss of taste, fatigue and dental conditions, and screen for secondary cancers. Or the team in the Breast Survivorship Clinic may spend ample time talking to survivors about osteoporosis, infertility, body image, sexuality and lymphedema.

The clinical teams call on in-house resources when survivors need additional emotional and social support.

Specific needs of survivors

“A cookie cutter approach is as ineffective for survivorship as it is for cancer treatment,” says Fran Zandstra, an oncology nurse with a master’s degree in business administration and director of the Cancer Survivorship Program. “We’re taking the same multidisciplinary approach for treating cancer and applying it to survivorship.

Countdown to day 100: signaling survivorship

Day 100 is a milestone that many stem cell transplant recipients circle boldly on their calendars as the turning point in their recovery. That’s when the greatest risk for critical side effects is past and when the stem cells have engrafted and begun making new blood cells.

It’s also the day that MD Anderson Advanced Practice Nurse Karen Stolar (right) contacts recipients and their families about the Stem Cell Transplant Survivorship Clinic.

Two years ago, Stolar helped establish the program to address the needs of patients who receive complex and long-term treatment for their leukemia, myeloma or lymphoma.

Currently, she is following 300 to 400 transplant recipients and will work with them for as long as two years. However, many are reluctant to call themselves “survivors.”

“Most transplant recipients have a lot of trepidation about calling them-

selves survivors,” says Stolar, who has worked in transplantation for more than 20 years and the last three at MD Anderson. “Many do not see themselves as being ‘over’ their cancer.”

She also works closely with transplant specialists, tracking physical effects such as graft-versus-host disease, hypothyroidism, osteoporosis, iron overload and pulmonary conditions, as well as teaching survivors and their caregivers about the impact of late effects.

She collaborates with colleagues across the institution to connect survivors and their families to a range of resources. And she teaches them how to effectively communicate with their community physicians once they return home, by educating them about symptoms to watch for and when they should consult a doctor or return to MD Anderson.

“A bone marrow, stem cell or cord blood transplant can be especially tough with so many potential effects,” Stolar



says. “A survivor’s quality of life seems much better than it was a decade ago, but these survivors have been through so much. We want to keep them on top of their health and continue to find ways to improve their ongoing quality of life.”

— Julie Penne

“What survivors appreciate is to come to the center where they are comfortable, see the team they know well, remain connected and talk about health issues important to them now,” she says. “We also found that patients under treatment find inspiration seeing the survivorship clinic, meeting survivors in the

brief or a secured web-based platform, this document gives community physicians the precise and relative medical information they need to be a partner with MD Anderson’s Survivorship Program.

To date, more than 1,800 individual passports have been provided to survivors.

“It’s a bit like having the ‘Cliff’s Notes of Cancer Care,’” Zandstra says. “With the passport, patients can re-enter their community better informed and empow-

ered to take an active, informed role in caring for their health, and isn’t that what survivorship is all about?”

MD Anderson’s new Passport Plan for Health empowers survivors to re-enter their communities and take an active, informed role in their health care.

waiting room and looking forward to their own graduation to the clinic.”

The survivorship clinics also free up busy faculty to focus on patients currently under treatment.

Zandstra and others on the front lines admit that talking to survivors about making the transition from their oncologists to the survivorship clinic can be very emotional. But for the survivor, the survivorship team has the time, expertise and resources to talk through post-treatment and life issues, leaving the specialists to tend to active patients.

Zandstra is quick to add that it is difficult for the oncologist to give up seeing survivors, too, and that most look forward to the visits because they are positive, personal and re-energizing.

Passport plan for health

As survivors continue their transition back to their communities, it’s vital that their primary care physicians have a snapshot of what they have been through so they, too, can contribute to a better quality of life, monitoring for side effects and subtle condition changes.

To align care with community physicians and keep them apprised of their patient’s original cancer diagnosis, treatments, potential late effects, medications, health status and recommended follow-up care, the Survivorship Program developed the Passport Plan for Health. Available through a two-page printed

Common physical, emotional, social side effects of cancer and cancer treatments:

Lapse in memory or concentration

Infertility

Risk for second cancers

Anxiety

Depression

Financial woes

Family stresses

Sexuality issues

Fatigue

Osteoporosis or bone loss

Decreased nutrition

Dry mouth or dry eyes

Numbness of hands or feet

Ovarian cancer survivor wears her ‘halo of health’ with pride

When Judith Buelow was going through rigorous treatment for stage III ovarian cancer, neither she nor her gynecologic oncology nurse, Fran Zandstra, could have predicted launching MD Anderson’s Cancer Survivorship Program together some 20 years later.

Buelow is MD Anderson’s first enrollee in the program, which formally started three years ago with the opening of clinics to serve survivors of gynecologic, genitourinary and thyroid cancers. This summer, Buelow will have her third consultation in a clinic established by Zandstra, director of the Cancer Survivorship Program, and a large team representing the clinics, Clinical Nutrition, Social Work, Clinical Cancer Prevention, Integrative Medicine and other areas.

The Gynecologic Oncology Survivorship Clinic — now one of seven survivorship clinics — is located within the clinic that Buelow got to know well during her treatment and follow-up with her gynecologic oncologist, David Gershenson, M.D., professor and chair of the Department of Gynecologic Oncology.

Every year, she returns to familiar surroundings, people and atmosphere but instead of discussing her latest CTs or laboratory results, Buelow and Advanced Practice Nurse Terri Wheeler, who works in the Gynecologic Oncology Survivorship Clinic, talk about a wide range of topics that might include nutrition and sun protection. They talk about Buelow’s health, not so much her cancer.

Accepting change

“It was very difficult to make the break from seeing Dr. Gershenson every year and transitioning to the survivorship clinic, but I knew there were so many women who really needed him,” Buelow says. “The clinic gives me my peace of mind and reconnects me to the people whom I treasured during my cancer experience, but I walk out the door knowing that I am healthy.”



While she sits in the Gynecologic Oncology waiting area, Buelow may take the time to talk to women who are under treatment and offer words of encouragement.

If asked, she may tell them about how she got through 12 months of chemotherapy and the post-surgery complications. But she’ll also proudly tell them that her diagnosis of advanced ovarian cancer was 21 years ago and that she resumed her life as a wife, mother of two sons, exercise fanatic, English teacher at Houston Independent School District’s High School for Law Enforcement and took on a new role as cancer survivor.

“I get goose bumps and well up with tears when someone calls me a cancer survivor,” the Indiana native says. “I think of my mother who had a wonderful adage: ‘The healthy wear a halo that only the sick can see.’ When I walk into the survivorship clinic every year, I know my halo is back.”

— Julie Penne

Leveling the playing field

By Mary Brolley

If clinical trials are the best hope for advancing cancer treatment and saving or extending lives, then the stronger the clinical trial, the more grounded the hope.

Day after day, from all over the United States and the world, boxes of precious cargo arrive at the unassuming Radiological Physics Center (RPC) in the Department of Radiation Physics on the outskirts of the country's largest medical center.

Inside the boxes are tiny opaque pellets called thermoluminescent dosimeters (TLDs) that measure a dose of radiation. Some of the TLDs are encased in anthropomorphic phantoms (see photo at right), back from an important mission: to gauge not only whether radiation machines used in cooperative clinical trials have been correctly calibrated, but also whether the participating institution can deliver a dose distribution as intended.

The 30 employees of the RPC — who include medical physicists and technologists, dosimetrists, computer systems analysts, graduate students, administrative support staff and visiting experts — know that their work affects patients far beyond their home base at MD Anderson.

Their efforts and expertise have, in fact, helped ensure the strength and applicability of clinical trial results for more than four decades, affecting patients all over the country and the world.

IMPRESSIVE POWER DEMANDS STRICT MONITORING

Since 1968, the National Cancer Institute has trusted the RPC to make sure the institutions that participate — or wish to participate — in clinical trials have the necessary radiation therapy equipment, personnel and procedures.

The long-running grant acknowledges the impressive power of radiation therapy techniques and the need to measure radiation output with corresponding precision to ensure patient safety.

Monitoring the machines at so many locations may seem a daunting task, but Geoffrey Ibbott, Ph.D., professor in the Department of Radiation Physics, and his team have several ways of accomplishing it. Their first line of duty involves sending out hundreds of boxes of TLDs a month.

The institutions position the TLDs under their radiation therapy machines, perform a set of prescribed tests, then pack them up and send them back. Once returned to Ibbott's team, they're tested to see if the output falls within accepted parameters.

If problems are found, the RPC has other ways of figuring out what's wrong, Ibbott says. "We do onsite dosimetry reviews. We visit about 30 institutions a year. And we do record reviews for quality assurance."

Because the goal is to help an institution resolve the problem, RPC staffers act as detectives to figure out why the machine isn't calibrated correctly.

Between 1970 and 1980, the compliance rate for beam calibration among these institutions increased from about 70 percent to 90 percent. But as techniques have become more and more complex, discrepancies in other components of the treatment are more prevalent.

MASTERY HONED BY RESEARCH, EXPERIENCE

How do they keep up with the constantly evolving techniques to evaluate them?

"We read journals. We stay abreast of clinical activities, and we collaborate with the 10 or 11 groups that conduct clinical trials. We all stay up to date — we have to," Ibbott says. "By monitoring in a number of ways and by knowing the processes inside and out, we try to avoid big problems that might occur because of an accumulation of small errors."

Beyond the benefit to clinical trials, Ibbott knows that RPC employees help safeguard the treatment of all patients who receive radiation therapy as part of their cancer treatment.

"It's a lot of responsibility, and we're very aware of it," Ibbott says. "We spend a lot of time making sure we find errors and correct them."



These nearly transparent “heads” are anthropomorphic phantoms that stand in for the real thing to help Geoffrey Ibbott, Ph.D., and his team check the calibration of radiation machines used in collaborative clinical trials.

Radiological Physics Center by the numbers

Centers monitored worldwide — 1,768

Centers monitored in the United States — 1,590

Beams measured each year — approximately 13,000

Years MD Anderson has held the grant — 42

Physicists in MD Anderson’s RPC — 6

Centers visited each year on average — 30 since 2005

Clinical trials in which MD Anderson’s RPC has been involved — 70 since 2005

Miles to the most distant center — 11,200 miles to Perth, Australia

Anthropomorphic phantoms mailed last year — 425

It's all
happening
in the
Children's
Cancer
Hospital

By Gail Goodwin



Pediatric patients have been a part of MD Anderson’s history since the institution was established almost 70 years ago. Though pediatric cancer is rare, MD Anderson’s Children’s Cancer Hospital has a robust program and sees more than 2,000 children from around the world each year.

The following three programs and initiatives at the children’s hospital are just part of what makes this a unique place for pediatric care and treatment.

1. Living the life in ‘cancer land’

Birthdays, choir concerts, graduations, summer camp and family vacations are special times to remember. They’re part of growing up.

Physicians like Pete Anderson, M.D., Ph.D., professor in the Division of Pediatrics, work so young patients can continue their activities and make “normal” a possibility during cancer treatment. Anderson employs numerous tools for families, including an online calendar where important dates in patients’ lives are noted along with their treatment schedule.

Patrick Zweidler-McKay, M.D., Ph.D., assistant professor in the Division of Pediatrics, agrees with this idea. “I try to get my patients involved in as many activities as possible, and then I schedule their chemotherapy and appointments around these important events in their lives,” he says.

Anderson also uses one-page summaries for each of his patients and puts their medical information, calendars, a PowerPoint of the location of the tumor, sample orders for referring physicians, articles and more on a flash drive for patients to take along to share with family, home physicians and nurses.

While processing complex medical information is a “new normal” that patients and families must adjust to, many say that having their personal medical information is motivating and helps them become experts on their own situations.

“I also try to learn all that I can from each family and referring physician, and, if other faculty members are doing things exceptionally well, I attempt to incorporate them into my practice,” Anderson says. “The dictation you do can be very positive and shows that you know them personally and really care — and you forget less than you would if you did it at the end of the day.”

He also believes that any care accomplished in an outpatient setting has a big advantage for a child’s quality of life.

At MD Anderson, additional opportunities for meaningful life experiences, such as summer camp and snow skiing, are offered to pediatric patients and their siblings. These activities help children with cancer increase their confidence and give them something to look forward to. Patients often say that it helps them “feel more normal” when they interact with others their age who are going through the same thing.

Many physicians also urge their patients to use such tools as journals and blogs to report what is happening during the cancer journey. These are helpful in letting others know about the patient’s health, provide a means of chronicling the treatment and also allow for self-discovery. In addition, online support groups are empowering. Patients and caregivers are hungry to talk to others in the same situation.

“What keeps you going is realizing that you’ve done your very best to make a difference in someone’s life. It’s not just whether they live or die — it’s also about the quality of their life,” Anderson says. “Patients have a very rich, long narrative full of detail. They come to MD Anderson to write a few more chapters, and they hope they can start a whole new book.”

2. Beam me up

When we talk proton therapy, we’re speaking of the tiny beams of radiation that can be delivered to a tumor with remarkable precision.

We’re also speaking of offering the advantage of a sophisticated technology that may reduce a young patient’s side effects during and after therapy.

Allowing young patients to make “normal” a possibility during cancer treatment is one of the goals of Pete Anderson, M.D., Ph.D., professor in the Division of Pediatrics.



From left to far right: Jack Parriera entertains his sons, Jake (3) and Cash (19 months), with a new iPad. The family has traveled from Seattle for Cash to receive proton therapy for his brain tumor. Lesley Boyko (in black scrubs and light blue jacket), nurse anesthetist, and Shannon Popovich, M.D. (in red scrubs), assistant professor in the Department of Anesthesiology and Perioperative Medicine, anesthetize Cash for the procedure. Rasheda White (in gray scrubs), radiation therapist, positions Cash on the radiation gurney. Parriera gives the already sleeping Cash a kiss before he and Jake leave the room.

In May 2006, the Proton Therapy Center at MD Anderson opened and that September treated the first pediatric patient.

Anita Mahajan, M.D., makes it very clear that there must be a perceived benefit for a pediatric patient to receive proton therapy treatment.

“We look for patients with a significant chance of survival who can benefit from more targeted radiation. This is not a palliative care option,” says Mahajan, associate professor, co-section chief of the Pediatric and Central Nervous System Section and director of Pediatric Radiation Oncology in MD Anderson’s Department of Radiation Oncology.

The Proton Therapy Center has treated more than 300 pediatric patients, with the vast majority young patients with brain tumors. However, patients with rhabdomyosarcoma, Ewing’s sarcoma, osteosarcoma and “really anything that requires precision radiation treatment” have been treated there, Mahajan says.

Her first response when asked about the primary difference in treating pediatric and adult patients with proton therapy is that “pediatric patients are more fun.” Then she gets serious and discusses the sedation necessary when using proton therapy with younger patients. “Our sedation is normally through an IV,” she says, “rather than intubating young patients, which is a risk for trauma and injury.”

At MD Anderson, a multidisciplinary approach to treatment is used with pediatric proton therapy. Team members may include a pediatric anesthesiologist, a pediatric oncologist and surgical support. Although

all team members may not be on site during the proton treatment, they are all nearby if needed.

“Fragmentation of care can be less than optimal,” Mahajan says, “and that’s an advantage pediatrics has in being part of a larger adult-based hospital.”

Generally, pediatric patients receive 25-30 treatments over a period of five to six weeks. Though the side effects are few, if any, Mahajan explains that any tissues or organs developing near what is being treated are at risk.

Susan Ralston, mother of 4-year-old Jacob, who was treated with proton therapy at MD Anderson at age 2, says, “Proton therapy is not only advantageous in the treatment plan, but also helps preserve the quality of life for children and reduces the risks of later secondary cancers caused from radiation exposure. We credit proton therapy for helping to save our son’s life and hope to help others.”

Overall, children will have better quality of life because their issues are minimized with proton therapy. “We cure them better,” Mahajan says.



Kate McRae gives a big smile as she prepares to strike the gong announcing the end of her proton therapy. Her oncologist, Anita Mahajan, M.D., helps parents of pediatric patients assess their children’s needs and design a plan for proton therapy.



3. Focusing on the benefits of eating healthy

Fruits and vegetables are “in,” along with the new “Optimizing Nutrition (ON) to Life Program” led by Joya Chandra, Ph.D. This multidisciplinary program works to promote healthy eating habits in pediatric patients and survivors.

Already, more than 150 survivors and their caregivers have been surveyed, and the results show a majority of survivors recognize issues related to nutrition and obesity, and want to change their habits.

Based on this information, Chandra, associate professor in the Division of Pediatrics, will evaluate a program called Fit4Life. The program will use cell phone and web-based intervention tools to approach brain tumor survivors ages 12-18 and their families. It is piloted by Maria Chang, a doctoral student who is collaborating with physicians from the University of California San Diego, as well as MD Anderson’s Department of Behavioral Science.

Survivors will receive nutrition information and have access to a website to help learn about different types of foods and food values. Cell phone reminders will prompt them to implement behaviors they have learned about. As they proceed through the program, participants will log their successes onto the site.

A nutritionist has been hired to work with the Children’s Cancer Hospital’s ON to Life Program. Rhea Li, a registered dietician, plans tailored nutrition counseling, following patients through their therapy to see how they benefit from eating well.

Li will compile nutrition information for Children’s Cancer Hospital patients and also will work with the education program to distribute these materials to healthy children through the back-to-school integration program. In addition, there’s a possible “virtual”

cookbook that Li will work on in collaboration with the MD Anderson Advance Team and the Board of Visitors Children’s Cancer Hospital Advisory Group/Communication and Image Subcommittee chaired by Board of Visitor member Pamela Onstead.

Video technology is part of the nutrition plan, too. A focus group of patients and survivors will pilot a video game developed by Tom Baranowski, Ph.D, professor of pediatrics at Baylor College of Medicine, in coordination with Houston design studio Archimage. “Escape from Diab” is an interactive game aimed at preventing childhood obesity and type 2 diabetes through healthy eating and exercise.

“With these and other facets of the ON to Life Program, I believe pediatric patients, survivors and their caregivers will learn and reap the benefits of healthy eating and exercise,” Chandra says. “And for kids as well as adults, these healthy lifestyle lessons can actually be a great way to prevent many types of cancer.”



Michael Giles (right), an eight-year survivor of brain cancer, enjoys a moment at Kim’s Place, a hang-out for adolescents and young adults being treated at MD Anderson. With him are Maria Chang (left) and Joya Chandra, Ph.D., who are beginning a Fit4Life program for pediatric patients.

Nurturing future cancer prevention leaders

By Katrina Burton

Michael Scheurer chose his research path — the viral causes of cancer — soon after finishing a master’s degree in public health. He took further steps in that direction when he completed his doctoral and post-doctoral training. But what really sealed his career as a well-funded epidemiologist was acceptance into MD Anderson’s Cancer Prevention Research Training Program (CP RTP).

“This program provided an experience that is well above and beyond what most epidemiologists have the opportunity to attend,” says Scheurer, Ph.D., now an assistant professor in the Dan L. Duncan Cancer Center at Baylor College of Medicine. “The best part of the program was interaction with my mentors, Dr. Melissa Bondy and Dr. Randa El-Zein, who provided the intellectual stimulation that I needed to begin developing my ideas and prepare me for a future in cancer prevention research. I could hit the ground running when I joined Baylor.”

Scheurer is just one of many scientists working in cancer prevention around the globe who have taken part in this program, whose goal is to help prepare scientists and clinicians for leadership roles as research investigators in cancer prevention and control.

“The high standards established for trainees in this program help fellows launch their careers in externally funded, peer-reviewed research,” says Robert Chamberlain, Ph.D., founder of CP RTP, professor in the Department of Epidemiology and a University of Texas System Distinguished Teaching Professor.

Multidisciplinary track enhances training

Following the institution’s successful road map in multidisciplinary cancer treatment methods, the training program covers three levels of prevention: primary prevention, which focuses on avoiding risks through behaviors such as smoking cessation and eating a healthy diet; secondary prevention, which includes screening; and tertiary prevention, or prevention of new or recurring cancers in survivors. Tertiary prevention also addresses minimizing side effects of treatment and enhancing quality of life for cancer survivors.

Established in 1992, the program has trained more than 350 fellows and follows a comprehensive curriculum that captures their areas of interest and other disciplines targeting cancer prevention. The program is the largest and one of the oldest cancer prevention training programs operating in the United States.

The key component of the program, contributing to trainee success, is the pairing of the trainee with at least two mentors from different disciplines — established faculty members who are considered experts in the trainee’s fields of interest.

“Fostering the relationship between trainees and their mentors is an invaluable and unique part of the program,” says Carrie Cameron, Ph.D., instructor and associate director of the program.



Shine Chang, Ph.D., director of the Cancer Prevention Research Training Program, helps students brainstorm content for a research paper detailing their work.



Carrie Cameron, Ph.D., discusses possible interventions for cancer prevention and how people might perceive the risks involved, such as radical mastectomy for women with a history of breast cancer in their families.

Solid funding and support

This year marks the program’s 18th year of funding from the National Cancer Institute. In fact, CPTRP is the recipient of one of the largest NCI training grants awarded in the United States.

The program’s ambitious curriculum and multidisciplinary track also have attracted several philanthropic supporters, including Halliburton. Plus, its deep expertise in graduate and early career research training has been instrumental in the successful development of the Duncan Family Institute’s Mentored Junior Faculty Fellowship Program.

Other opportunities through the training program include short-term research experiences for undergraduate and graduate students, trainee forums and special presentations, and new interdisciplinary classes focusing on bio-behavioral research methods.

“We have faculty who love our fellows and want more of them,” says Shine Chang, Ph.D., professor in the Department of Epidemiology. As director of CPTRP, she mentors trainees and junior faculty, helping them develop their careers, find opportunities to showcase their research and write grants to obtain independent funding for their research. “We are well connected with cancer prevention research, and we’ve developed an informal network around the United States that allows us to place and keep track of all our graduates.”

Daniel Hughes, Ph.D., assistant professor in the Department of Epidemiology and Biostatistics at the Institute of Health Promotion Research in San Antonio and another graduate of the training program, can’t say enough good things about the program. “It helped me develop essential skills like writing, managing projects and how to assume a leadership role — both in and out of the lab.”

Other educational tools and extras offered to trainees through the Cancer Prevention Research Training Program include:

- a personalized educational plan
- career guidance and development plan
- scientific and grant writing courses
- opportunities to present research to professional and lay audiences
- coaching and assistance with mentor relationship development
- other professional development activities

Setting the bar with mentorship

Melissa Bondy, Ph.D., professor in the Department of Epidemiology, shares her thoughts on mentoring.

“Mentoring for me means guiding a junior faculty to success. I’ve been mentoring students, post-doctoral basic prevention and clinical fellows for a long time, and Michael is one of my most recent mentees who showed great promise from the start with his novel and innovative ideas.”



Michael Scheurer, Ph.D. (left), benefited from the mentorship of Melissa Bondy, Ph.D., through the Cancer Prevention Research Training Program and is now building a career as an epidemiologist.

A graceful way to fly

Volunteer pilots help connect patients with treatment

By David Berkowitz



Grace Flight pilot Fiona McDougall gives MD Anderson patients a lift.

When it came to deciding where to receive treatment for prostate cancer, Oscar Hernandez didn't hesitate.

Same story 17 months later when his wife, Christina, was diagnosed with breast cancer. But figuring out how they would travel the 450 miles from their West Texas home in Sweetwater to MD Anderson in Houston was another matter. Especially when faced with numerous costly trips.

Enter Grace Flight of America, an organization of volunteer pilots who provide free air transportation to people with medically related needs.

Working with MD Anderson's Department of Social Work, the Hernandezes tapped into this service.

"We're very grateful to the pilots who donate their planes and their time. Without their help, it would have been very hard on us financially," Christina says.

While Oscar's prostate cancer required surgery and a three-day hospital stay, Christina's situation was more complicated. It involved chemotherapy treatments at MD Anderson spread over six months, followed by surgery and then 30 rounds of radiation during a final month-long stay in Houston.

PILOTS GIVE OF THEIR TIME

Fiona McDougall, a flight instructor and co-captain on a small private jet based in Houston, was one of several pilots who carried the couple. In fact, they were her first passengers as a Grace Flight pilot.

"Over the course of Mrs. Hernandez's treatment, I picked them up as frequently as I could," she says. "Having a chance to help someone in need like this is a very humbling experience."

Pilots sign up for missions on the Grace Flight website. Occasionally, because of distance, more than one pilot and plane are needed to complete the final leg of a mission.

A hangar and patient/pilot center at Hobby Airport in Houston serve as the local Grace Flight headquarters, where staff coordinate up to 350 missions at a time. Since 2002, about 1,200 MD Anderson patients have been assisted, many of them more than once.

The Department of Social Work plays an integral role in the process by assessing patients' financial needs, medical status and other factors. According to Lakshmi Naik, assistant director of the department, it's worth the effort.

"Grace Flight and other volunteer organizations that provide air or ground transportation offer a great service to our patients," Naik says.

See more about travel assistance in Conquest online at www.mdanderson.org/conquest.



Southwest, Continental provide a big lift

Private airplane pilots aren't alone in opening their hearts, and wallets, to MD Anderson patients.

Southwest Airlines and Continental Airlines also have a history of providing big lifts to those in need.

Working with many participating hospitals, Southwest's Medical Transportation Grant Program assists thousands of patients and family members traveling for medical treatment.

"We understand the strain that serious illness places on families, especially when necessary medical treatment is far from home," says Debra Benton, director of Charitable Giving for Southwest. "Through this program, we offer help and ease some of their worries so they can focus on what's important."

Over the past few years, more than 1,200 MD Anderson patients and family members received free air travel from Southwest for a total donation value of about \$500,000.

This assistance has made a difference for many patients. As one person shared on a feedback form, "These tickets are helping me afford to stay on the clinical trial that's saving my life."

Anyone using the Continental OnePass Frequent Flyer Program can donate miles to a number of organizations, including MD Anderson. The institution's Travel Management Services redeems these miles for tickets.

In the past two years, about 7.5 million miles have been donated to MD Anderson, resulting in more than 160 tickets for patients and caregivers.

For both programs, Department of Social Work staff help determine which patients are eligible to receive assistance, based on financial need, medical condition and other factors.

— David Berkowitz



Eight reasons to give

On Feb. 18, MD Anderson launched the public phase of its \$1 billion Campaign to Transform Cancer Care with a special event at the Hilton Americas-Houston. Included in the festivities were eight cancer survivors who, in sharing their stories, provided eight compelling reasons why this initiative is so important.

By DeDe DeStefano

Front row from left:
Kay Rogers, MD Anderson
President John Mendelsohn,
M.D., Nadia Jones, Jaime
Ramirez, Jason Connelly;
Back row: Nikita Robinson,
Victoria Johnson, Campaign
Chair Harry Longwell,
Kenneth Woo, Janice
Duplessis.

JAIME RAMIREZ

Diagnosed in Mexico at age 4, Jaime Ramirez had osteosarcoma that returned every two years for 17 years. His parents brought him to Houston when he was 7, then as a teenager, to MD Anderson. He survived 18 surgeries on his leg, often enduring hospital stays alone while his mother returned home to South Texas to care for his nine siblings. Since 1988, he has been cancer-free and an MD Anderson employee. "They saved my life. So as long as I'm alive, I will be part of this team's mission to end cancer," he says.

KAY ROGERS

A 38-year breast cancer survivor and 21-year colorectal cancer survivor, Kay Rogers has inspired others through 34 years of volunteer service at MD Anderson. She began the Ride for Life for Anderson Network's annual patient conference, served 18 years on the Pediatric Brain Tumor Foundation's Ride for Kids task force and supports the Harley's Angels calendar fundraiser. She lost her daughter, Patricia Rahl, one year ago to endometrial cancer and honors her along with all those who did not conquer cancer, yet contributed greatly to the mission to eradicate it.

VICTORIA JOHNSON

Victoria Johnson is a 12-year survivor of stage IV breast cancer with metastases to all major organs, including her brain. Although she had annual mammograms and precautionary ultrasounds, she was diagnosed with late-stage cancer and told elsewhere that she had little time to live. Searching for hope, she came to MD Anderson where she has had seven brain tumors successfully removed. Passionate about enjoying each cherished day, she quotes her grandmother: "It's time to use the good china. Enjoy life!"

NIKITA ROBINSON

An MD Anderson employee for five years, Nikita Robinson is a senior research coordinator in the Department of Health Disparities. She also is a four-year colon cancer survivor and member of the Employee Cancer Support Group. Within months of diagnosis, her mother was diagnosed with stomach cancer and her grandfather with pancreatic cancer. While neither survived, the insight she gained as a patient and employee enabled her to be there for them. "I'm a real survivor. And to honor them, I am doing this. I feel so honored to represent all the survivors at this institution," she says.

KENNETH WOO

Kenneth Woo is a 17-year Hodgkin's lymphoma survivor and a 6½-year acute myelogenous leukemia and stem cell transplant survivor. A longtime volunteer with the Anderson Network, he chaired the organization's 2009 steering committee and will chair its 2010 Cancer Survivorship Conference. Helping cancer patients and their caregivers is a priority in his life. Because of his experience, he, wife Clara and daughters Ashley and Kimberly have made the words "be a channel of blessings to others" their family motto.

JANICE DUPLESSIS

Janice Duplessis is a 10-year breast cancer survivor and three-year metastatic cancer survivor. Soft-spoken and serene, she chaired Anderson Network's 2007 annual patient conference while going through radiation treatments for brain metastasis. She adopted the conference theme, "Power of Hope," to describe herself. "We who have cancer must believe in the power of hope. MD Anderson has given me hope for the strongest and longest survivorship." Her husband, Rogers, established the "Lean on Me Caregivers Group" to support others who care for loved ones facing cancer, and she credits him with being her strength.

NADIA JONES

Nadia Jones may only be 5 years old, but she's an experienced driver of a pint-sized pink power-wheels Ford Mustang, which she thoroughly enjoys. She is being treated for rhabdomyosarcoma in MD Anderson's Children's Cancer Hospital and just graduated from kindergarten in Richmond, Texas. Her mother, Brandie, says that despite the numerous obstacles Nadia has encountered since birth, she has always managed to maintain a positive outlook on life.

JASON CONNELLY

Diagnosed with stage IV melanoma in 2006, Jason Connelly has been a survivor for three years. He generously and passionately shares his story of diagnosis, intense treatment and survival, emphasizing the importance of philanthropic funds and their role in advancing the therapy that helped save his life. He was one of three cancer patients honored as Person of the Week on "ABC World News" in 2008. His adorable son, 5-year-old Jacob, is the joy of his life.



See more about the capital campaign in Conquest online at www.mdanderson.org/conquest.

For additional information on supporting the capital campaign, please contact Patrick Mulvey, vice president for Development, 713-792-3450, or log on to the Internet site at www.makingcancerhistorycampaign.org.

Medicare goes nuclear

By Scott Merville



It's good news for Medicare patients, says Homer Macapinlac, M.D., professor and chair of MD Anderson's Department of Nuclear Medicine. They can now receive early monitoring, outside of clinical trials, if they are entered in the National Oncologic PET Registry, which allows evaluation of PET and its effect on treatment choices.

Positron emission tomography can be a gift for patients. When PET images are taken early on in treatment, they not only help the patient and physician know if treatment is working, but now many of these tests are also being covered by Medicare.

This is due to changes in Centers for Medicare and Medicaid Services (CMS) coverage policies, which are allowing more cancers to be routinely assessed.

“All cancers, with a few exceptions, can now be imaged up front with PET to determine the extent of disease and to help direct the next step for the patient, which could be a biopsy, surgery or a combination of therapies,” says Homer Macapinlac, M.D., professor and chair of MD Anderson’s Department of Nuclear Medicine.

Having these baseline PET scans at initial staging also will help with future decisions about monitoring the disease or detecting its spread to other organs.

In addition to extending coverage of initial scans to new cancers, the CMS also approved coverage of second PET scans at the end of a course of treatment for ovarian cancer and multiple myeloma.

Breast cancer remains the only indication for which CMS allows routine monitoring during the course of treatment. Such coverage also is available for other patients on clinical trials.

“That’s good news for us because we are a protocol-driven institution, so patients have a good chance to be covered by Medicare and get monitoring of treatment that they otherwise would not get,” Macapinlac says. “We have encouraging data that if you have a course of six to eight cycles of chemotherapy for lymphoma, repeating a PET scan after cycle two or three can predict who will respond, even if tumor size has not changed. Those with abnormal PET scans are likely to become resistant to therapy.”

Outside of approved clinical trials, Medicare now permits early monitoring for patients entered in the National Oncologic PET Registry (NOPR), which allows evaluation of PET and its effect on treatment choices. The registry is part of the agency’s Coverage with Evidence Development (CED) program, which will use the data gathered to guide future recommendations about coverage for early monitoring. A CED assessment led to the new PET indications for additional types of cancer.

Nuclear medicine constantly evolving

PET is a nuclear medicine technique that relies on radioactive tracers to image an organ or tumor by capturing metabolic or chemical activity in action. The only radiotracer approved by CMS for cancer imaging is 18F-fluorodeoxyglucose (FDG). Most tumors crave glucose, so FDG is taken up by cancer cells. The extent of this uptake is a measure of the tumor’s health, with a decline indicating a therapy is working.

MD Anderson conducts research and clinical trials of other tracers that could give better or more specialized information. “We continue to work to provide the best imaging for the best care of our patients. That’s why they come here,” Macapinlac says.

Tracers in clinical trials at MD Anderson include:

- The 18F-fluorothymidine (FLT) PET method could offer even earlier indications of response, because an effective cancer therapy quickly would shut down a cancer cell’s ability to divide in two. It correlates to DNA synthesis rather than glucose uptake.
- Another new tracer permits monitoring of angiogenesis, the creation of new blood vessels. Anti-angiogenesis drugs block the development of a tumor’s blood supply. By imaging this process, researchers hope to select patients who would benefit from these drugs and to find biomarkers that assess response.
- To assess bone metastases, 18F-sodium fluoride (NaF) PET imaging is being compared to the current technetium standard, a 99mTc-MDP gamma camera-based bone scan. It was approved for PET imaging decades ago and then was superseded by technetium-99 due to the infancy of PET scanners at the time. Improvements in PET technology could make 18NaF PET a less time-consuming, more sensitive and specific technique for patients.

Having these baseline PET scans at initial staging also will help with future decisions about monitoring the disease or detecting its spread to other organs.



Cancer Briefings

YOGA GETS RESOUNDING SUPPORT FROM NCI

In an ongoing effort to validate the age-old belief that mind-body interventions have a beneficial impact on the health of patients, the National Cancer Institute has awarded more than \$4.5 million to MD Anderson.

The largest ever awarded by NCI for the study of yoga in cancer, the grant will allow researchers to conduct a Phase III trial in women with breast cancer to determine their improvement in physical function and quality of life during and after radiation treatment. It will also investigate if such stress reduction programs have economic and/or work productivity benefit.

“Research has shown that yoga and other types of mind-body practices, incorporated into the standard of care, can help improve patient outcomes, particularly quality of life,” says Lorenzo Cohen, Ph.D., professor in the Department of Behavioral Science, director of MD Anderson’s Integrative Medicine Program and the study’s principal investigator.

“However, none have become standard of care, or are on the clinical care pathway for cancer patients,” he says. “This funding will allow us to definitively determine the benefit of incorporating yoga into treatment plans for women with breast cancer.”

The research is being done in collaboration with the Vivekananda Yoga Anusandhana Samsthana, a yoga research foundation and university in Bangalore, India. MD Anderson has been collaborating with VYASA for more than six years.



See more about this study in Conquest online at www.mdanderson.org/conquest.



Lorenzo Cohen, Ph.D., keeps a photo of Vanda Scaravelli, his Italian grandmother and a yoga master, in his office as inspiration in his work as director of MD Anderson’s Integrative Medicine Program. In this role, he oversees the practice and study of complementary medicines that may be used in concert with mainstream care to manage symptoms, relieve stress and enhance quality of life.

The program encompasses Place ... of wellness, a center with programs that focus on the mind, body and spirit, as well as the Integrative Medicine Clinic, which provides reliable information on natural products and complementary medicine.



Studying the connection between depression and smoking are Andrea Taylor Holly, Ph.D. (left), a postdoctoral fellow, and Janice Blalock, Ph.D., associate professor, both in the Department of Behavioral Science.

PROJECT SOAR HOW DEPRESSION AND SMOKING COLLIDE

The old expression, “It takes two to tango,” may be the case when it comes to the relationship between depression and smoking. Project SOAR, a pilot project administered through the Behavioral Research and Treatment Center at MD Anderson, is currently enrolling participants to help determine if this pairing affects a person’s efforts to quit smoking.

“There is a fair amount of data that shows a connection between depression and smoking, and that depression interferes with a person’s efforts to quit,” says Janice Blalock, Ph.D., associate professor in the Department of Behavioral Science and principal investigator on the project.

Project SOAR tests if it is more effective to combine treatment of depression with traditional smoking-cessation treatment, or if it is better or just as effective to treat the depressed smokers for their smoking habit, without addressing depression.

“The pilot is unique in that this question has never been tested before in smokers who are currently depressed,” Blalock says.

Participants are broken into two groups. Both will receive smoking cessation treatment, but only one group will have the additional mood management counseling that treats depression.

Should health practitioners treat the disease and the habit or just administer the smoking-cessation treatment? Blalock, her co-investigators and collaborators are hoping the pilot project will provide the answers and open the door for future studies.

SAM NUNN IS TALK OF THE TOWN

On May 17, approximately 500 guests attended MD Anderson’s first “A Conversation With a Living LegendSM” dinner in Atlanta, raising more than \$668,000 for cancer research at the institution. Chaired by Board of Visitors member Tom Johnson and his wife Edwina, the event included an evening of entertainment and important messages about supporting cancer research. Veteran CBS News anchor Bob Schieffer interviewed Former Georgia Senator Sam Nunn, and Atlanta’s “Three Inspirational Tenors” performed.

Cancer patients, including non-smoker Jeff Wigbels, who was diagnosed with stage IV lung cancer, gave testimonies, reminding the audience of the reason for the evening and the importance of their support. AirTran Airways donated a pair of business class tickets at each table, which were offered up as silent auction items, raising \$50,950. Other major sponsors included The Coca-Cola Company and AT&T.



Hear more about this study in Conquest
podcast online at www.mdanderson.org/conquest.

KATRINA BURTON, DEDE DESTEFANO AND SANDI STROMBERG CONTRIBUTED TO CANCER BRIEFINGS

Moving Forward: Lisa Richardson

By Mary Jane Schier



Listening to Lisa Richardson tell her third grade students about surviving bone cancer provides a more powerful lesson than most textbooks.

After 15 years teaching at Pilot Elementary School in Greensboro, N.C., she understands many children are confused about cancer and curious about her wheelchair.

“I’m always open and honest with my students. On the first day of classes, I talk about my cancer experience. This model of a skeleton helps me show which of my bones are missing,” she says while pointing to the left hip area.

She believes using a wheelchair actually has its advantages.

“I can communicate better because I’m more approachable at the students’ eye level. Also, I can demonstrate that someone in a wheelchair isn’t

handicapped. In fact, I tell them I’m handi-capable,” Richardson says, “and I get great parking spaces.”

‘Am I going to die?’

Richardson had just celebrated her 14th birthday when she felt sporadic pain in her left hip. The active eighth grader thought she had “twisted something” while playing volleyball and cheerleading.

Even with rest, pain relievers and a heating pad, the pain persisted. X-rays ordered by an orthopedic specialist found a fist-sized tumor at the base of her spine.

June 23, 1987, is a date neither she nor her parents, Lee and Betsy, will ever forget. After the biopsy was analyzed, the doctor had his diagnosis: a fast-growing terminal bone cancer titled dedifferentiated chondroblastic osteogenic sarcoma.

“I still remember the tears in my dad’s eyes when he told me,” Richardson says. “I asked him if I was going to die soon. He just shook his head and said, ‘I don’t know.’”

Despite the doctor's prediction that she had three to six months without any treatment, perhaps two years with aggressive therapy, she and her parents "decided we wouldn't go down without a fight. I insisted that I be part of every decision, that nothing be kept from me or sugar-coated."

'Determined to live'

The next few days focused on library research near the family home in Metairie, La. Back then, there was no Internet or cell phones to help with their search for hope.

During phone calls around the world, her father reached Norman Jaffe, M.D., now professor *emeritus* of pediatrics at MD Anderson's Children's Cancer Hospital. An expert in rare pediatric tumors, Jaffe agreed to see the teenager immediately.

First, she would take a combination of potent anti-cancer drugs aimed at shrinking the tumor. If chemotherapy worked, Jaffe explained, surgery would follow.

Richardson vividly recalls the drugs' side effects, especially "the shocking nerve pain, constant state of nausea and losing my hair." Though the tumor did shrink slightly, she faced a radical operation and losing her leg.

On Oct. 26, a team of MD Anderson surgeons removed the remaining tumor along with bones and tissues in her left hip — but they did not amputate her leg. The next chapter included several weeks of intensive care, both kidney and lung failure, and receiving 200 units of blood products.

"Through it all, my family and friends helped me fight to stay positive. I was determined to live and realize my dream of becoming a teacher," Richardson stresses.

She credits MD Anderson's Children's Art Project for providing a creative outlet on some of the darkest days. One of her designs led to a scarf, tote bag and Christmas card.

'I couldn't be happier'

Richardson graduated *magna cum laude* with a bachelor of arts degree in education from St. Andrews Presbyterian College in Laurinburg, N.C., in 1995, and began teaching in Greensboro. She also earned a master's degree in education *summa cum laude* at the University of North Carolina at Greensboro. In 2000, she was named teacher of the year at Pilot Elementary School.

"Teaching is extremely rewarding, but very challenging. There is so much for students to learn in today's fast-paced, technical world," she says.

Although her leg was saved, Richardson soon decided it was more comfortable and practical to use a wheelchair. "I can and do walk — on a treadmill for exercise and when I'm inside friends' homes — but it's very tiring," she explains.



Norman Jaffe, M.D. (right), professor *emeritus* in the Division of Pediatrics, happily hit the slopes with former patients Lisa Richardson and Paul White during MD Anderson's annual ski trip in 2009. Jaffe, who established and still directs the ski trips, says he looks forward to having Lisa's husband Russell join the fun next winter.

She recently married Russell Nelson, laboratory supervisor for a pharmaceutical company. They already anticipate the Children's Cancer Hospital rehabilitation ski trip next January in Utah.

"My first ski trip in 2008 was fabulous. I'm excited that Russell will be able to share the fun with Dr. Jaffe (who started the ski trips in 1982), other survivors and their families," Richardson says.

Overall, she concludes, "Cancer has given me much more than it has taken away. The trials I have overcome, the people I've met along the way and the lives I've touched in the process are priceless."

Signs of Hope

'Beads of Courage' helps children cope with cancer treatment

By Lana Maciel



Laura Hubbard, 10, says she hopes to one day hang her Beads of Courage along the walls of her bedroom once her treatment for acute lymphoblastic leukemia is complete.

Just how symbolic can a tiny bead be?

It all depends on whom you ask.

In various cultures, beads are worn as symbols of protection and bravery. But for children going through cancer treatment, beads represent healing and significant milestones in their fight against the disease.

Through "Beads of Courage" at MD Anderson's Children's Cancer Hospital, children document every step of their treatment by collecting a string of beads. Each individual bead represents a progressive step in the child's treatment, such as getting blood drawn, going through a round of chemotherapy or having an overnight hospital stay.

"It's a good coping mechanism, especially for those children who have a hard time with things like getting shots or taking medication," says Anna Smith, outpatient pediatric nurse in the Robin Bush Child and Adolescent Clinic. "It gives them an incentive to be brave and not go into a procedure kicking and screaming."

Honoring treatment milestones

At the beginning of treatment, children are given a string of beads bearing their name. Different colored beads, each representing a certain treatment or procedure, are added with each accomplishment. The most symbolic are the Purple Heart Bead, signifying the end of cancer treatment, and the glass Butterfly Bead, which is given to a child's family if the child loses the battle against cancer.

When strung together, these beads are an artistic, visual roadmap of each child's journey through treatment. Smith says it's not uncommon to see children walking around the hospital with colorful strings several feet long, indicating their lengthy experience with cancer.

Beads of Courage is a national program that was introduced at MD Anderson in 2008, and it's become quite popular among young patients.

"The children are really excited about getting their beads and adding them to their strings," Smith says. "Whenever they complete a certain phase, they'll come running to ask for their next bead."

These beads might seem like small, insignificant objects, but for young patients at MD Anderson, beads are proud symbols of their fight against cancer.

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LOCATIONS

In addition to MD Anderson's main campus in the Texas Medical Center in Houston and two research campuses in Bastrop County, Texas, the institution has developed a number of local, national and international affiliations.

Texas

Regional care centers: Bay Area (Nassau Bay), Bellaire, Fort Bend (Richmond), Katy, Sugar Land, The Woodlands

Outside of Texas

MD Anderson Cancer Center-Orlando (Fla.)

MD Anderson Radiation Treatment Center at Presbyterian Kaseman Hospital (Albuquerque, N.M.)

Banner MD Anderson Cancer Center (Gilbert, Ariz.) opening in 2011

International

Centro Oncológico MD Anderson International España (Madrid, Spain)

MD Anderson Radiation Treatment Center in Istanbul at American Hospital (Turkey)

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