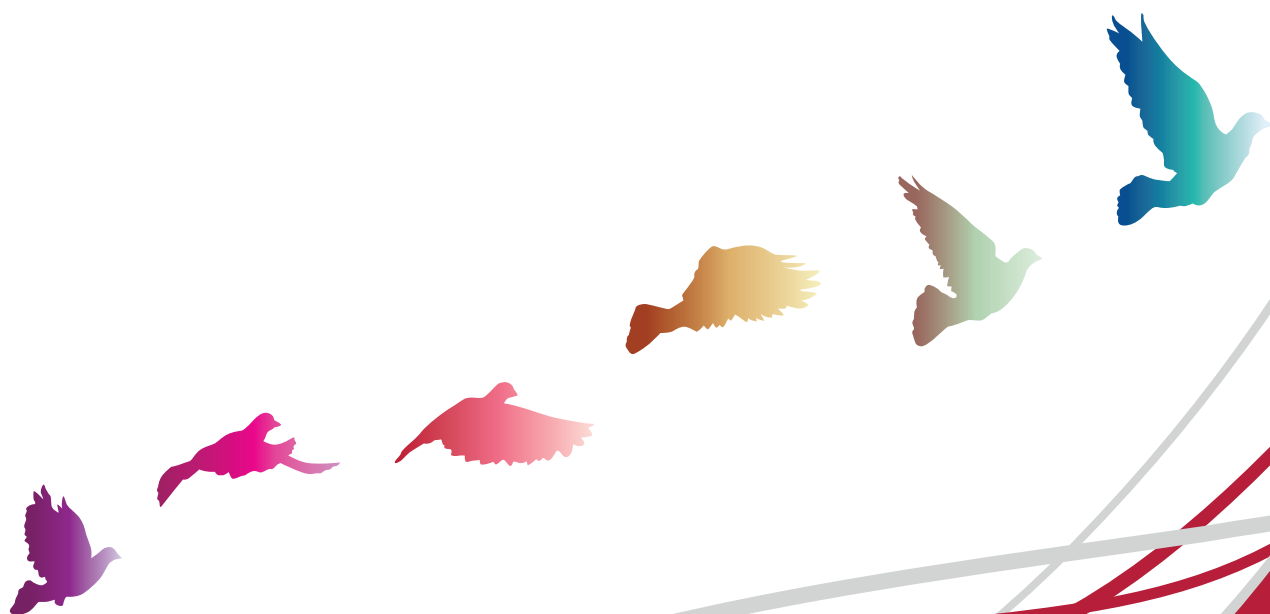




I N S P I R I N G M E D I C I N E



2012 Annual Report

Clinical Care • Research • Education

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New Leadership: Inspiring Change

“Under Dr. Yusuf Hannun’s leadership, Stony Brook University Cancer Center’s clinical, research and educational missions will be brought to new heights. His arrival to Stony Brook Medicine, in conjunction with the University’s plan to build a state-of-the-art Medical and Research Translation (MART) building, is the beginning of a new era for cancer care and the Long Island community.”

Kenneth Kaushansky, MD, MACP
Senior Vice President, Health Sciences
Dean, Stony Brook University School of Medicine

A Vision for the Future: Inspiring a New Era in Cancer Medicine



Kenneth Kaushansky, MD, MACP; Scott K. Reid, Associate Director, Finance and Administration, Cancer Services; Yusuf A. Hannun, MD; Rose Cardin, RN, MSN, Associate Director of Nursing: Psychiatry and Oncology, and Administrator, Cancer Services

“Cancer centers have an obligation to contribute new knowledge about cancer biology, to translate that knowledge to patients, and to keep on top of the cutting-edge research and approaches to diagnostics, therapeutics and prevention.”

Yusuf A. Hannun, MD
Director, Stony Brook University Cancer Center
Vice Dean, Cancer Medicine
Joel Kenny Professor of Medicine

New Director to Broaden Research, Clinical and Teaching Missions of Suffolk County's Cancer Care Leader

Stepping into a new era requires a new leader. Stony Brook University Cancer Center has found one in Yusuf A. Hannun, MD, a molecular biologist and physician-scientist internationally renowned for his investigations into the molecular mechanisms of cancer. Dr. Hannun is a gifted researcher who has made an indelible mark on the science of medicine through his studies of lipid mediators of cancer cell signaling. In fact, he is one of the top 100 highly cited investigators in biology and biochemistry according to the Institute for Scientific Information. In addition to his role as director, Dr. Hannun has been named the Vice Dean of Cancer Medicine and the Joel Kenny Professor of Medicine.

As its Director, Dr. Hannun brings the necessary skills, vision and passion

to catapult the Cancer Center into its critical next stage. He oversees a program that includes 12 site-specific, multidisciplinary disease management teams. He also leads research programs conducted within Stony Brook University School of Medicine that support these teams. As he expands on the Cancer Center's existing strengths, Dr. Hannun plans to achieve a level of excellence that will be recognized by the National Cancer Institute — something he accomplished previously at the Hollings Cancer Center in South Carolina.

For the community, the intense focus on research brings only benefits. When scientists understand the biology and mechanisms of cancer, they can create more effective and targeted treatments, as well as prevent specific cancers.

Under Dr. Hannun's leadership, Stony Brook will broaden its entire spectrum of cancer research — from basic investigation to work that translates directly into the development of new medicines.

As a result, patient care will improve. Research hubs are known to attract the best physician-scientists as well as funding, which means the residents of Suffolk County will have access to even more advanced cancer care.

With his multilayered expertise — as a leader, an educator, a researcher and a physician committed to making a difference — Dr. Hannun is the right person at the right time to lead the Cancer Center into an exciting new era of innovation and excellence.



Yusuf A. Hammun, MD

Welcome to Stony Brook University Cancer Center

The potential to create a world-class cancer center that could change so many lives for the better is both an extraordinary challenge and a privilege. It is one that I do not take lightly. Nor do I presume that I can do it alone.

Fortunately, I will not have to. With the clinical, research and educational components already in place, Stony Brook University Cancer Center has a strong foundation and a bright future. I am excited to lead a program that has achieved so much and already offers the most advanced care in the community.

I am also fortunate to arrive at Stony Brook in conjunction with another essential component: the University's plan to build a state-of-the-art Medical and Research Translation (MART) building. Funded by the generosity of Marilyn and Jim Simons, the Simons Gift includes \$50 million allocated to the project. In addition, with the approval of Stony Brook's SUNY 2020 Challenge Grant application — a comprehensive plan designed to increase student access, attract and hire additional faculty and

staff, and launch economic development partnerships with industry in the Long Island region — an additional \$35 million in capital challenge grant funds will be directed toward its construction. The MART will house investigators and projects on cancer research, advanced imaging and new technologies to advance cancer care. Plans include a 30-room cancer clinic, a 30-station infusion center and 25 cancer biology-oriented labs.

My vision for the Cancer Center is based on developing a program that makes a difference in the study and practice of cancer medicine — both in Suffolk County and around the world. The way to accomplish this, I believe, is through a two-pronged approach: developing state-of-the-art cancer medicine and building a strong basic, clinical and translational research program.

The key to realizing this vision is ensuring that these two aspects become intertwined so that they continually inform each other. First, clinical services will be expanded, not only by creating new programs that respond to

the needs of the population, but also through prevention and outreach initiatives. Second, by adhering to the philosophy of personalized medicine, care will be determined by understanding an individual patient's biology. When oncologists assess the uniqueness of each patient's cancer tumor and analyze the differences at the genetic level, they have the tools to pursue the most effective course of treatment. In the near future, this will result in drug choices tailored to the patient's body chemistry and tolerance for side effects. And third, translational research will be emphasized so that innovations move from bench to bedside as quickly and as safely as possible.

This report, highlighting the Cancer Center's accomplishments during fiscal year 2012 (July 2011 to June 2012), shows the foundation from which we will launch these changes. Truly, we could not have a better starting point for realizing our goals.

Innovation in Patient Care: Inspiring Hope

At Stony Brook University Cancer Center, innovation in patient care signifies the accessibility to all modalities that promote optimal healing and outcomes: pioneering interventions, advanced technology, clinical trials and a multidisciplinary approach to treatment. It means working with physician-scientists who are shaping the study and practice of cancer medicine. It translates into making quality of life during treatment a priority.

Innovation and quality of life come together at Stony Brook Medicine in what's known as personalized cancer medicine — new therapies that can more accurately and effectively target cancer cells while limiting side effects and damage to normal tissue. While

pioneered at medical research institutions all over the world, some of the advances in understanding and applying the mechanisms behind these therapies were developed, and continue to be developed, right here at Stony Brook.

At Stony Brook, personalized cancer medicine also equates to a more personal approach to patient care. Every patient receives an individualized plan of care that not only takes his or her specific diagnosis into consideration but also the patient's family history, lifestyle, general health and personal preferences. A multidisciplinary treatment team whose members represent the areas of expertise is assigned to best meet each patient's unique needs.

In addition, because the complexity of cancer care services can be overwhelming, patients are guided through the treatment process by a patient navigator with specific expertise in their cancer diagnosis. This treatment team member serves as a patient advocate and an important source of support.

Every team member understands that cancer doesn't just affect patients' health, it impacts every aspect of their lives as well as those around them. The team's goal is to ensure that the people of Suffolk County have access to advanced cancer medicine close to home. This way, patients can be treated with minimal disruption, in their own community, and receive treatment while receiving the support of their families and friends.



*Sylvia K. Wood, DNP, ANP-BC,
and Michael Schuster, MD*

Cutting-Edge Trials and Pioneering Treatments



*Colette Pameijer, MD, with patient, Adetoun Pozamantir
Back row: Deborah Coleman, RN; Donna Hurley, RN; Corinne Dermont, RN*



The excitement is palpable when Michael Schuster, MD, Director of Bone Marrow and Stem Cell Transplantation and Director of Hematologic Malignancies, talks about what is happening at Stony Brook Medicine. “We are quickly becoming a center of research,” he says, “which is exciting for us and wonderful for our patients.” This includes a first-in-man trial for treating acute myelogenous leukemia (AML) that targets specific mechanisms inside the cells that signal cells to grow — very different from traditional chemotherapy. It is a phase I trial conducted solely at Stony Brook University Cancer Center and MD Anderson Cancer Center in

Texas. The drug has been designed for use in people with acute myelogenous leukemia who have not responded to traditional chemotherapy. Also in a clinical trial at Stony Brook is a new drug to improve the way stem cells are collected from patients for stem cell transplants. Dr. Schuster has worked with a biotech company, which has facilities in Taiwan and China, on its development from the outset. This pioneering treatment has the potential to make gathering stem cells safer and more effective because it shortens the duration of the collection process, shortens the number of days needed for collecting cells and increases the

number of cells available. “Right now, we are the only cancer center in the world to do this,” Dr. Schuster says, “but our hope is to bring it to other centers in the U.S., as well as to Taiwan and China.” Stony Brook Medicine’s Transplant Program recently became the first on Long Island to join the Blood and Marrow Transplant Clinical Trials Network (BMT CTN), a network of the country’s top stem cell transplant centers that receives funding from the National Institutes of Health and the National Cancer Institute for important, practice-changing transplant clinical trials.



Fazel Khan, MD, with Frank Ortega-Mejia and his mother, Jovita Mejia



Limb-Sparing Surgery with an Emphasis on Quality of Life

In the not-so-recent past, treatment for bone cancers typically involved amputation of the affected limb. Orthopedic oncology surgeon Fazel Khan, MD, however, is on the leading edge of limb-sparing and lifesaving technology that is fundamentally changing the outcomes for patients with primary or secondary bone cancers.

Dr. Khan is one of the few orthopaedic oncologists on Long Island to use advanced computer-based imaging technology during surgery, which gives the surgeon greater precision and more

accurate views of the affected area. “This allows us to treat the cancer while preserving much of the surrounding area — a limb, a bone socket, the pelvis — to eliminate further risk of cancer and improve patient quality of life,” he says.

Also key are the new materials available, including tantalum, an alternative to titanium. Tantalum has a major benefit: it needs dramatically less “good” bone in order to attach to the replacement socket. Through the use of the tantalum material, surgeons can

reconstruct the joint by attaching the new socket to the remaining bone, giving the patient more mobility and substantial pain relief. Currently, Dr. Khan and surgeons at the Mayo Clinic are the only ones in the country with this expertise.

Improving quality of life when a patient only has a short time to live is of equal concern to Dr. Khan. “If someone with metastatic cancer only has six months or even two months to live, those can be the most important months

of his or her life,” says Dr. Khan. “I can operate so they have less pain, use fewer pain medications, are more mobile and live out their last months with a better quality of life. We work closely with the palliative care team, to provide the patient with any needed care.”

Frank's Story

Last July, after Frank Ortega-Mejia, now nine, and his mother Jovita returned from a walk in the park, Jovita noticed that Frank's foot was

swollen. Subsequent testing revealed Ewing's sarcoma and Frank was referred to Dr. Khan for surgery.

“With feet, there are tight margins and not much room to salvage the limb,” explains Dr. Khan. “Some of my colleagues around the country thought amputation was the best course of treatment, but Frank's mother wanted to save his foot.” And Dr. Khan did just that by completely removing the cancer, a small part of the foot and one toe. The resulting 100

percent negative margins also meant that Frank did not require radiation.

Currently, Frank is completing chemotherapy at the Cancer Center, and has worked with a physical therapist. He is ready to get back to his life of school, freestyle and break dancing, and playing jokes on his friends and family. “He will be a normal boy,” says Jovita. “I am a single mother and I was scared for my son, but Dr. Khan was excellent at explaining everything. He often stops by to visit Frank when he is receiving chemotherapy.”

Melissa Henretta, MD, and Tracey Welti



Sajive Aleyas, MD

Interventional Pulmonologist Uses Advanced Minimally Invasive Procedure

Changing the standard of diagnosis and treatment for lung cancer and complex airway disease is, in essence, what Sajive Aleyas, MD, one of the few pulmonologists in the country with advanced training in interventional pulmonology and lung cancer treatment, has devoted his life's work to. And when he joined Stony Brook as a new co-director of the Lung Cancer Evaluation Center in spring 2011, he made several innovations available to people in Suffolk County.

One is endobronchial ultrasound for

staging lung cancer. This outpatient procedure, which involves no-incision biopsies through the mouth or nose, will essentially replace the current standard, which requires an incision in the neck that exposes the lymph nodes.

Another is electromagnetic navigation bronchoscopy (ENB), a minimally invasive approach for diagnosing and planning treatment, for hard-to-reach lung cancer lesions. Dr. Aleyas is one of the few physicians on Long Island trained in this pioneering procedure, and Stony Brook is the only hospital on Long Island with

the supporting technology. ENB combines GPS-like technology with a catheter-based system to access lesions deep in the lung. Typically, the options for patients with a spot on the lung involved major surgery or a procedure that might not be able to reach lesions that deep. The less-invasive ENB option offers fewer complications, a quicker recovery and an improved "diagnostic yield," which means that the quality of the sample is better — leading to a more accurate diagnosis and more highly targeted treatment.

More than anything else, says Melissa Henretta, MD, MPH, Clinical Assistant Professor of Obstetrics, Gynecology and Reproductive Medicine, and a specialist in minimally invasive surgery, using a robotic surgical platform for treating gynecologic cancers is a quality-of-life issue. "Like open surgery, we can perform a hysterectomy for a curative effect. The significant advantages for the patient with this type of surgery are less blood loss, less pain, quicker discharge from the hospital and a faster recovery time."

Currently, Dr. Henretta, who trained on the da Vinci® Surgical System as a fellow, uses the platform to treat endometrial and cervical cancers, perform hysterectomies, and if indicated, para-aortic and pelvic lymph node dissections, to see where the cancer may have spread. She is one of the few gynecologic oncologists in Suffolk County with the capability to treat gynecologic cancers robotically.

The surgeries are performed through tiny one-to-two centimeter

incisions. Unless there is an anatomical issue that precludes the approach, most women are candidates. It is especially beneficial for women who are obese because there is a lower possibility of wound complication.

"The other thing to keep in mind," says Dr. Henretta, "is that a robotics program at a tertiary care center like ours becomes a true multidisciplinary program. I can have our other robotically trained surgeons (including urologists and experts in pelvic support) scrub with me in the operating room to perform two procedures at the same time. In the future, I foresee working with colorectal surgeons as well. Patients with more than one issue will no longer need to undergo multiple procedures on different occasions."

Tracey's Story

When Tracey Welti, a 52-year-old mother of two from Lindenhurst, learned she needed surgery to stage and treat her endometrial cancer, she had

the option of robotic-assisted or open surgery. "I needed to get back on my feet and back to my job as soon as I could, so I chose robotic — even though I knew nothing about it before. Given my circumstances, it was the best option for me." However, the deciding factor, she says, was Dr. Henretta herself. "She is very professional, and explains everything to a T, but she makes you feel comfortable. I left her office without a doubt about her or the surgery. My husband absolutely adored her and felt that she had that something extra that separates a good doctor from a great doctor."

Today, more than six months after the surgery, Tracey is confident in her choice. Her recovery was quick, returning to walking at the mall two weeks after her surgery and going back to work four weeks afterward. "I never thought I would get cancer, but I am thankful for Dr. Henretta and Stony Brook — between the hospital staff who make you feel wonderful and Dr. Henretta's skill, it was a great experience."



Stony Brook First-in-World to Use Irreversible Electroporation on Pancreatic Tumors

Kevin Watkins, MD, Chief, Upper Gastrointestinal and General Oncologic Surgery Group, made news in 2009 when he became the first in the world to use irreversible electroporation (IRE) in the treatment of unresectable pancreatic cancer. This surgical technology, also referred to as the NanoKnife®, kills cells by using electrical fields to generate pores in cell membranes. These pores remain open permanently, which creates microscopic damage to

the cells and causes them to die.

Fast forward to the present. Dr. Watkins continues to build a cutting edge pancreatic cancer program including minimally invasive surgeries not offered elsewhere on Long Island, as well as continuing to be one of the national leaders in the use of IRE for pancreatic and other cancers. These new surgical techniques are especially important in cases such as pancreatic cancer where the treatment does not

end after the surgery. Rapid recovery is critical if additional treatment is needed.

“The main benefit of IRE is that it gives us the potential to offer treatment to some patients who previously had no other options,” says Dr. Watkins. “But, for those patients who are candidates, the procedure may result in a major improvement in quality of life and extended time beyond the anticipated few months associated with this advanced level of disease.”

*Patty Zirpoli, RN (upper left)
Kevin Watkins, MD (right)
Nurse Manager Liliana Castro, RN, and
Clinical Assistant Miriam Genao with
Corinna Magno (bottom left)*



*Ghassan Samara, MD, and
Gerty Fortune, RN (left)
RapidArc® radiotherapy
technology (right)*

Robotic-Assisted Surgery for Cancers of the Head and Neck

Stony Brook University Cancer Center is the only center on Long Island, the second in New York and one of fewer than 100 in the world to offer robotic-assisted surgery using the da Vinci® Surgical System for treatment of cancers of the head, neck and tongue. “This is a tremendous breakthrough for patients,” says Ghassan Samara, MD, Associate Professor, Division of Otolaryngology-Head and Neck Surgery. “In the past, we would have to cut through the jawbone and muscles to reach the tumor, which entailed much more pain for the patient after surgery, as well as a long recovery period. Instead, our da Vinci® Surgical System

lets us operate through the mouth. We can insert a 3D camera and slim instrumentation transorally, which gives us dramatically better access to areas that the hand cannot reach. I can also operate with better precision and accuracy because I can see so much more and do so much more.”

The benefits to the patients include less time under anesthesia, an earlier return to eating and swallowing, less trauma, no scarring and a much faster return to their lives. “For comparison, with the last two surgeries I performed conventionally, the patients, both men in their 40s, remained in the hospital three to four weeks postoperatively.

The last one of my patients I recently operated on with robotics was a woman, 84 years of age, who remained in the hospital only three to four days.”

Because these surgeries often involve reconstruction, Dr. Samara can work with a multidisciplinary team that may include oral surgeons; plastic surgeons; ear, nose and throat doctors; and general surgeons. “Here, we are able to provide the services the patient needs for every step in his or her treatment and recovery — from prosthetics to follow-up chemotherapy or radiation to physical and occupational therapies, as well as speech and swallowing services.”

Barbara Smith, NP, and
Rosemary Moriarty



Pete Novotny, CNMT, RT(N)(CT), and patient Joseph Grillo (left)
Ghassan Samara, MD (right)



Joseph's Story

In July 2011, 36-year-old Patchogue resident Joseph Grillo had what his doctor thought was strep throat. When it didn't respond to antibiotics, the doctor ordered a battery of tests. A positron emission tomography (PET) scan showed cancer, and a biopsy confirmed it as tonsil cancer. This is when Dr. Samara entered the picture.

"I always equate Stony Brook with high-tech procedures. I immediately felt comfortable with the approach Dr. Samara wanted to take," Joseph says.

Dr. Samara performed a robotic-assisted minimally invasive radical tonsillectomy on August 17 followed by a radical neck dissection on August 25. Joseph's total hospital stay for the two procedures? One night.

"I'm an active guy," says Joseph. "It was important for me to get back to my life as quickly as possible." This included his job at a recycling plant in which he routinely lifts loads up to 400 pounds, his Jujitsu practice and, of course, his family, which includes three children under the age of three.

Between Dr. Samara's skill and the increased accuracy afforded by the robotic platform, the surgery resulted in clean margins. Joseph required no follow-up radiation or chemotherapy. He continues to have monthly checkups and periodic PET scans but is considered cancer free.

"I've had no side effects and no loss of strength. I have to hand it to Dr. Samara — he's got a God-given talent and a great bedside manner. I always knew I was in good hands. I thank the Lord for my miraculous outcome."

As part of the Cancer Center's comprehensive, multidisciplinary and patient-centered approach to care, women who have undergone treatment for breast cancer also have access to a Survivorship Program. Developed and headed by nurse practitioner Barbara Smith, NP, the program's services address the physical, mental, social and other personal needs that may arise as a result of diagnosis and treatment. "Our focus is to help women take an active and positive role in their care and recovery," says Barbara.

When a patient is referred to the program, the nurse practitioner completes a primary assessment, gathers all the medical information and develops a plan of care. To encourage wellness, care may include referrals to a dietitian, physical therapist, chaplain, social worker, and even relaxation or yoga classes. "What I've found is that every aspect of my patients' lives has been touched by their experience with cancer. My goal is to

help them feel like their pre-cancer selves as much as possible."

While this goal may involve health advocacy, more typically it also involves listening, empathy and ongoing encouragement. The nurse practitioner makes herself available by phone for all her patients. They will be followed for as many years as is needed.

"This is really the next frontier in cancer care," says Barbara. "Not that long ago, people didn't survive cancer. Today, there are about 12 million survivors in the U.S. alone, thanks to earlier detection and improved treatment. I'm pleased that I can help so many people make that transition from patient to survivor."

Rosemary's Story

Rosemary Moriarty, 66, of Holtsville, was the person who always took care of everyone else. Then she was diagnosed with breast cancer and found her typical ways of coping no longer worked. Rosemary's oncologist referred her to Barbara

Smith, NP, for survivorship services. "Only then," says Rosemary, "did I begin to heal, both physically and mentally. I can't begin to tell you what an asset Barbara was in my healing."

Not only was Rosemary provided with key resources — a referral to a counselor, recommendations on relaxation and nutrition, and post-surgery support for a surgical complication — she was encouraged to connect with her feelings. "She taught me to trust my feelings and be open enough to discuss them with others. It was like a whole new world opened up for me."

Barbara also worked with Rosemary to allow others to help her. "In fact, she told me that my recovery depended on it. Letting people help was completely new for me, but Barbara gave me so much strength that I felt safe in being cared for during every step. I have to say, this is just an incredible service for patients. I always knew support was just a phone call away."



Robert Parker, MD,
and patient Elijah Rosario

Highly Targeted New Therapies to Treat Childhood Cancers



Rosemary Mahan, RN, CPNP, CPON, and patient Joseph Scala (left); Rosario Arias with patient Fariah Alam.

Lower toxicity. Less damage to healthy tissue. Fewer side effects. Faster response rates. Higher survival rates. These are a few of the benefits of a new class of highly targeted cancer therapies based on the molecular structures of specific cancers. While long considered the “holy grail” of oncology, these therapies have been primarily used in adults. However, in the past decade, Stony Brook Medicine, in conjunction with the Children’s Oncology Group and others, has aggressively advocated for wider use in children. According to Robert Parker, MD, FAAP, Director, Pediatric Hematology/Oncology, “Typically, newer drugs are not tested as early in kids as they are in

adults; however, with targeted therapies and a much better toxicity profile, pediatric oncologists have been successful in convincing the pharmaceutical companies to try these drugs sooner in children in clinical trials.”

At the Cancer Center, several are already in use for children. One is a drug that only recognizes malignant cells in people with Hodgkin’s lymphoma. Another is imatinib, used for chronic myeloid leukemia (CML). This therapy, a tyrosine kinase inhibitor has very little toxicity. It also can be used effectively in some children with a particular highly aggressive form of acute lymphoblastic leukemia (ALL) to

improve cure and survival rates. With these highly targeted therapies, a drug developed for one form of leukemia can at times be used for a different form as long as the same chromosomal gene mutation exists. In some cases, these drugs are used when patients are resistant to conventional treatments, not as a cure, but as a bridge to transplantation, essentially helping to stabilize the patient until a blood marrow donor match becomes available.

In addition to the availability of these new medications for children, researchers at Stony Brook’s Molecular Structure Laboratory are working to make their contribution to this growing field.



Tamara Weiss, MD, with George A. Gamaldi Jr.

Changing Protocols Bring Improved Quality of Life for Patients During Treatment

Tamara Weiss, MD, Vice Chair of Clinical Services and Clinical Associate Professor of Radiation Oncology, long believed that the most difficult part of thyroid cancer treatment was the isolation patients underwent after receiving a one-time dose of radioiodine that made them, in essence, radioactive. The National Radiation Commission standard for precautions is five to seven days of isolation with minimal contact with others and the outside world.

In the past several years, however, Dr. Weiss began to question if this duration was necessary, and sought to prove it. To determine when patients could stop radiation precautions, the radiation safety staff performed an additional measurement of exposure at one meter. This information allowed Dr. Weiss to assess the rate at which the body processed the radiation, and to more precisely hone in on the point at which a patient was no longer radioac-

tive and a potential danger to others. “I found that it was feasible to dramatically reduce the time patients would be on precautions,” says Dr. Weiss. “They could be safe in about one and a half to three days, compared with the traditional five to seven. This is a huge benefit for the patient, not only physically, but also psychologically.” Dr. Weiss is preparing her data for publication.

Currently, the Cancer Center is the only program in Suffolk County to offer radioiodine for thyroid cancer, treating 130 to 150 adult and pediatric cases a year. The treatment is considered up to 95 percent curative, important as the rates of thyroid cancer are rising nationally — from 15,000 new cases annually in 1995 to 45,000 today.

George’s Story

For George A. Gamaldi Jr., 56, from Brookhaven who loves to travel, the diagnosis of thyroid cancer in October

2009 came as a complete shock. “It was the last thing I needed,” he says. He had surgery to remove the tumor, then underwent a course of treatment that involved a low-iodine diet, thyrogen shots and radioactive iodine — resulting in a cure, according to Dr. Weiss.

It was George’s confidence in Dr. Weiss’ abilities and her approach to patient care, he says, that helped him through the treatment process. “She spoke to me like a person, not a doctor, in terms I could understand. She was great on the follow-through and personal calls, especially right after my treatment when I was in isolation, which was the hardest time for me. She was also great with her referrals — directing me to doctors she trained or trained with so she knew they were good. I have to say that even though having cancer is terrible, it was a positive experience and I always felt Dr. Weiss did right by me.”

Research: Inspiring Discovery

At the foundation of research are questions: What? What if? How? Why? Why not?

In the early years of cancer research, the questions were bold and sweeping. The answers reflected this — and often the treatments that were developed as a result may have destroyed the cancer cells, but they also harmed healthy tissue. Today, as cancer medicine has gotten more effective and survivorship becomes the norm rather than the exception, researchers are able to ask different questions, focused as much on patient quality of life as they are on cure.

“Traditionally, medical oncology was focused on efficacy — to keep patients alive and reduce recurrence of cancer,” says Jules Cohen, MD. “As researchers,

we were more willing to accept levels of toxicities in the treatment if it accomplished these goals. But patients really paid a price with both short-term complications and long-term side effects. Now, we have an opportunity to improve the patient experience — to make treatment more individualized, better tolerated and infinitely less toxic — while not compromising on outcomes.”

This shift in focus is reflected at Stony Brook University Cancer Center in all areas of its research program: basic, translational and clinical trials. Researchers are asking questions about

better calibrating dosage and timing of treatment. They are exploring which patients genetically are the best candidates for chemotherapy. They are developing less invasive diagnostic and screening methods. They are using molecular biology to create more highly targeted and individualized cancer therapies. It is still cutting-edge medicine — perhaps, even, at an accelerated pace — but delivered with a softer touch.

The following are some of the vital questions the researchers at Stony Brook Medicine are asking — and what the answers may mean for patients with cancer.



Vincent Yang, MD, PhD, with members of his research team, graduate students Bing Yu and Yang Liu, and Agnieszka Bialkowska, PhD and Amr Ghaleb, PhD

Identifying Novel Drugs for Colon Cancer

Can highly targeted new drugs inhibit cancer cell growth?

Twenty years ago, while at Johns Hopkins University, Vincent Yang, MD, PhD, pioneered the cloning and characterization of Krüppel-like factors (KLFs), which are a group of proteins that regulate important physiological function in the gastrointestinal tract. He and his colleagues discovered that, among many functions, they exert a role in the development of colon cancer.

Today, Dr. Yang, the Simons Chair of Medicine at Stony Brook University School of Medicine, is considered one of the world's foremost experts on KLFs. He continues to focus his research on using his in-depth understanding of these proteins to find ways to control the growth of colon cancer. Dr. Yang's studies have been funded by the National Institutes of Health (NIH) for more than 15 years, and he currently has three active grants from the NIH, including the National Cancer Institute

(NCI). "My latest project," he says, "involves identifying new drugs — small-molecule compounds — to target these proteins in order to slow down or inhibit the growth of cancer cells."

It has been a formidable process, which required the development of a screening system (in conjunction with The Scripps Research Institute and the NCI) to identify drugs that might influence these proteins. Starting with a field of approximately 300,000 compounds, Dr. Yang and his team have narrowed it down to one or two that have the greatest effect on the proteins. At this point, they have only been studying these compounds in the laboratory with a cell culture system and have just started working with animal models.

"Drug discovery is the most exciting part of research," says Dr. Yang, "and there are a lot of exciting opportunities like these at Stony Brook to help change

the shape of cancer medicine. In addition, because of our depth of resources, number of specialty laboratories and highly advanced academic departments, researchers routinely find themselves in collaborative situations across disciplines. For example, our biomedical researchers are already working with our Institute of Chemical Biology and Drug Discovery as well as with the Department of Applied Mathematics and Statistics on bioinformatics and statistics. It is an environment primed to translate what happens in the lab regarding the basic mechanisms of disease into new methods and new drugs to treat various diseases. Using this cross-departmental, multidisciplinary approach, we have already had several successful examples, including pioneering work on the drug Gleevec®, which is used in the treatment of gastrointestinal stromal tumors."

Exploring Lipid Networks

Mengling Liu and Yusuf A. Hannun, MD



If lipids regulate cell function, can we harness these mechanisms to target cancer cells?

When physician-scientist Yusuf A. Hannun, MD, Director of Stony Brook University Cancer Center, started his career, lipids were known for two things: as an energy source and as the "brick and mortar" wall around a cell that gave it structure. Then in the mid '70s, scientists discovered that some lipids were bioactive — that is, they were also key regulators in cell function. Suddenly, a whole new area of research opened, and Dr. Hannun stepped in.

Today, he is one of the world's foremost molecular biologists, credited for discovering, along with his colleagues, one class of lipids called sphingolipids, which act as mediators in cancer cell signaling. This can include tumor promotion or suppression, cell death, cell

changes and inflammation, which play a role in cancer.

"To understand the signaling mechanism, we needed to study and define the metabolic pathways of these lipids, understand how they are handled by the cell, how they regulate enzymes, how to correlate changed enzyme levels with changed biologic functioning and many other functions," says Dr. Hannun. "We found that there are many varieties of these lipids, each with a different molecular structure and biologic function, which participate in many decisions for the cell, as well as whole networks of pathways that both intersect and communicate with each other." Instead of being discouraged by the vastness of the lipid networks they have uncovered,

Dr. Hannun and his colleagues are excited by the endless possibilities. "Because the enzymes that regulate lipids are proteins, they are better targets for making medications and regulating cells. We have more opportunities here to create highly targeted therapies — not only for cancer but also for neurologic disorders, inflammation and metabolic disorders."

Just as exciting, says Dr. Hannun, are the exponential improvements in the tools of biomedical research that make discoveries like these possible. "We can do so much more than we did 10, 20 years ago. The tools are more empowering, and the results even more so."

Dr. Hannun's work is supported by five NIH grants totaling \$1.7 million.

Breakthroughs in Leukemia Treatment

Michael Schuster, MD (left)
Amr Ghaleb, PhD (top right)



Can a drug that controls cell signaling keep leukemia cells from growing?

The Stem Cell Transplantation and Hematologic Malignancy Program is currently involved in cutting-edge clinical trials for breakthrough drugs in the treatment of acute and refractory acute myelogenous leukemia (AML). Stony Brook University Cancer Center and MD Anderson Cancer Center in Texas are the only two centers in the world to pioneer this first-in-man phase I trial that looks at a new agent, known as a pan-Aurora kinase inhibitor, that targets specific mechanisms inside the cells.

Designed for patients who have not responded to traditional chemotherapy or who, due to age or poor health, cannot tolerate chemotherapy, the drug essentially switches off the signaling process that tells cells to grow. Not only has it been found to be highly effective, but it also has fewer side effects — key for

this patient population.

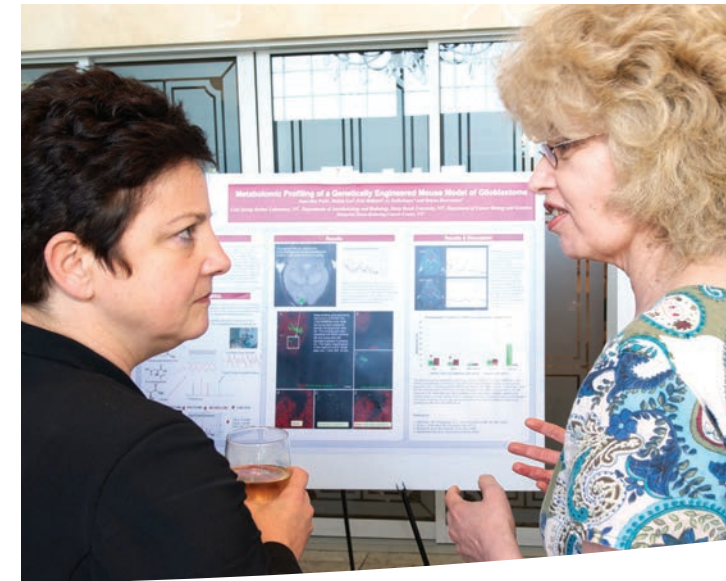
“At this stage of the clinical trial, we are trying to identify any toxicity issues,” says lead investigator Michael Schuster, MD, Director of Bone Marrow and Stem Cell Transplantation, and Director of Hematologic Malignancies at Stony Brook Medicine. “So far, it is looking good. Therapies like these are key in raising the standard of care for AML. Thirty years ago, almost 80 percent of patients with this diagnosis died. Today, the survival rates, especially in this vulnerable patient population, are improving.”

The program also has several other clinical trials underway, testing new drugs to treat myeloma, lymphoma and myelodysplastic syndrome. One drug under development is designed to improve the way in which stem cells

are collected from patients for stem cell transplants. Currently, it is the only trial of its kind in the world, and Dr. Schuster has worked with a biotech company, which has facilities in Taiwan and China, on its development from the onset. This pioneering treatment has the potential to make gathering stem cells safer and more effective because it shortens the duration of the collection process, shortens the number of days needed for collecting cells and increases the number of cells available. “Stem cell gathering is an arduous process for patients,” explains Dr. Schuster, “involving five hours a day, three days in a row. We would like to make the process safer and easier for patients — as well as less expensive.” He also hopes to expand the study to other centers in the U.S., as well as to Taiwan and China.

Understanding Brain Changes from Lung Cancer

Helene Benveniste, MD, PhD,
and Kate Dickman, PhD, at the
Cancer Center Research Retreat (left)
Magnetic resonance imaging (MRI)
unit (right)



Why do patients with lung cancer often experience depression, fatigue or cognitive changes, and are these changes triggered by the cancer itself or related to treatment?

That’s what the principal investigators of this study, School of Medicine Professor of Surgery and cardiothoracic surgeon Thomas Bilfinger, MD, and Helene Benveniste, MD, PhD, Professor and Vice Chair for Research, Department of Anesthesiology, are seeking to understand. Using advanced imaging techniques, including proton magnetic resonance spectroscopy (MRS), positron emission tomography (PET) and magnetic resonance imaging (MRI), researchers perform brain scans on patients once diagnosis of a lung mass is made, following treatment and one year after. The scans can uncover areas in the brain with changes, which can be correlated to the patient’s sensation of fatigue and other complications.

To date, the study includes 30 patients. Approved by the Institutional Review Board, it is now being resubmitted to the NIH for additional funding. As the study moves forward, research will be conducted on a new combined PET/MRI scanner, which Stony Brook will be among the first in the nation to install.

“We do not know the mechanism that causes these brain changes or how they interact with a patient’s general mood status,” says Dr. Bilfinger. “We found that the changes may be related to both the cancer itself and the treatment, although more likely the cancer. Even patients who are not undergoing chemotherapy or taking other medications experience side effects. However, when the cancer

goes away, we expect the metabolic changes we observe in the brain to go back to normal.”

When the underlying mechanism for brain metabolic changes in patients with lung cancer is identified, physicians may be able to address these potential changes at diagnosis to prevent them from occurring and thereby avoid fatigue, which is often seen in patients following treatment. This may include the use of highly targeted medications and/or antidepressants. “Studies show that people who are not depressed live longer and have better outcomes,” says Dr. Bilfinger. “The results of this research could not only affect patient health, but also quality of life during and after treatment.”



Fazel Khan, MD (left)

New Techniques in Bone Cancer Care

Why shouldn't patients with end-stage bone cancer have access to interventions to improve their quality of life?

It's a question that has long troubled orthopedic surgeon Fazel Khan, MD, who looks at end-stage cancer as an incurable condition, not a terminal illness. "Who is to say how much time someone really has left?" he asks. "I believe that everyone deserves quality of life right up until the end of their life."

In the past, when a patient was diagnosed with metastatic bone cancer, physicians understood that their role was to deliver palliative, not curative, medicine. This typically involved heavy doses of narcotics that often left patients feeling disconnected from their life, families and friends. Now, with development of a new material called tantalum — an alternative to titanium that makes joint replacement surgery

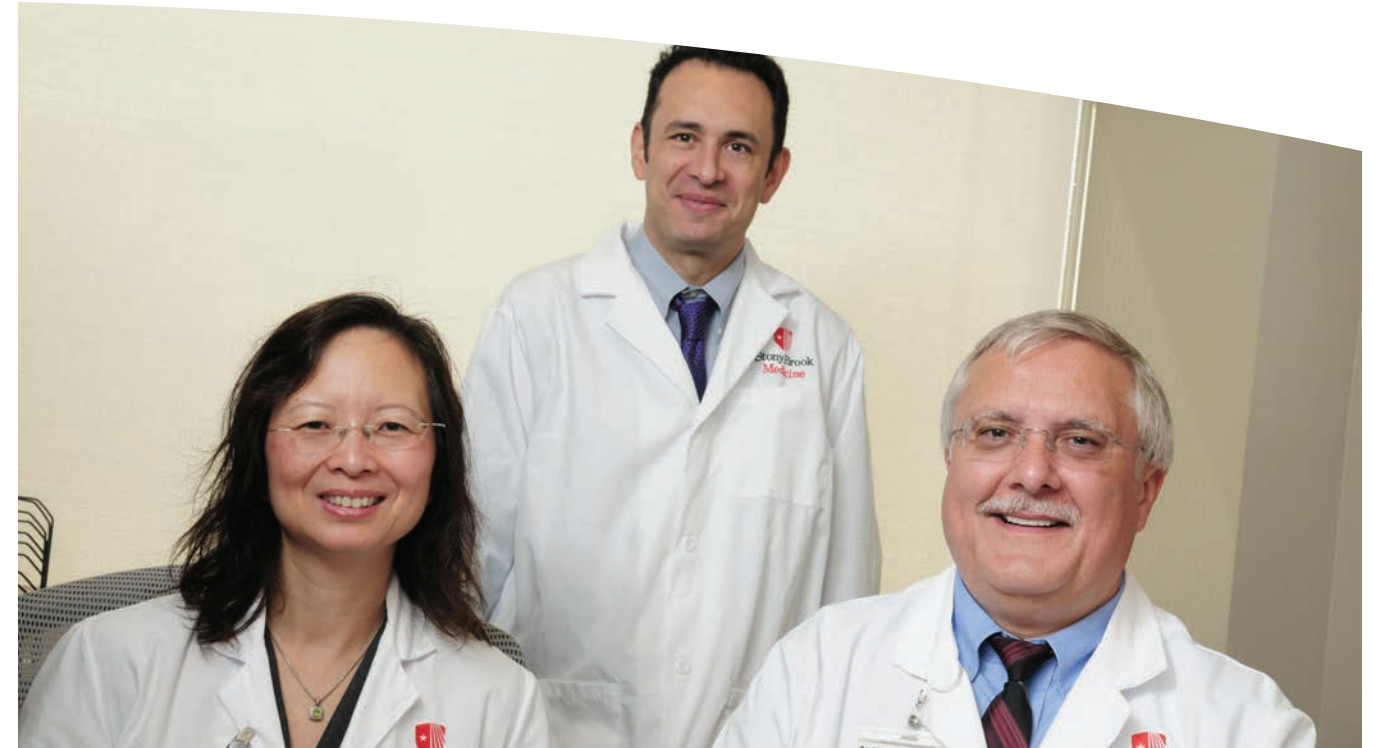
viable in patients with bones ravaged by cancer — the outlook is changing.

"My feeling is that a patient's last months may be the most important of his or her life and the person should not have to live them heavily medicated," Dr. Khan says. "When bone cancer destroys a patient's hip joint, the result is agonizing pain. Traditional surgery is usually impossible because the hip socket needs to be anchored to 'good' bone in the pelvis. With tantalum, we can attach the replacement to the remaining bone. This not only gives patients more functionality and mobility, but it also relieves their pain and dramatically lowers the amount of medication they may need. It also gives them clarity so they can be alert and functioning during this critical time in their lives, so that they can address any

important decisions and spend valuable time with their loved ones."

Currently, Stony Brook and the Mayo Clinic are two of only a few institutions in the world using tantalum for joint replacements in patients with metastatic bone cancer. Dr. Khan has performed several cases to date, and has recently published an article in a leading orthopaedic journal, *Clinical Orthopaedics Related Research*, detailing his process and approach, as well as the patient benefits.

"This is such a breakthrough for patient quality of life," says Dr. Khan. "I am willing to do this surgery even if a patient has a projected lifespan of six weeks. I think it is important for patients to know that they can have dignity and quality of life until the end."



Janice Lu, MD, PhD, Jules Cohen, MD, and Andrzej Kudelka, MD

National Principal Institution for Breast Cancer Research

Stony Brook continues to commit resources toward improved understanding of breast cancer's underlying mechanisms, as well as the development of novel therapies and new approaches to reduce side effects of treatment. The following describes a few of the current research projects that have the potential to change the course of breast cancer medicine.

Will adding a new drug to the standard regimen for advanced breast cancer improve the effectiveness of treatment?

Janice Lu, MD, PhD, Director, Breast Medical Oncology Program, serves as the national principal investigator for the National Surgical Adjuvant Breast and Bowel Project (NSABP) FB-7 clinical trial. For more than 20 years, Stony Brook has been a member of NSABP, which is a large cooperative group that includes more than 200 U.S. and international cancer centers. The group collaborates with the National Cancer Institute. Dr. Lu coordinates 120 sites in the U.S. for this clinical trial.

"The study measures the efficacy of a new drug called neratinib as a

neoadjuvant therapy for women with locally advanced breast cancer. The goal is to help patients better respond to treatment. Neratinib is an antibody against the receptor in HER-2 (human epidermal growth factor receptor 2). HER-2 promotes the growth of cancer cells. In one of about every five breast cancers, the cancer cells make an excess of HER-2 due to a gene mutation. HER-2 breast cancers tend to be very aggressive and responsive to targeted treatment.

"We are looking at different ways to use neratinib with standard treatment,"

says Dr. Lu. "Is neratinib combined with another anti-HER-2 antibody better than just the one? Are there other more effective combinations?"

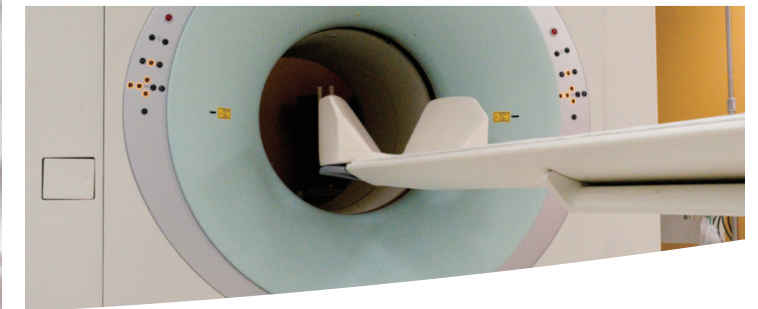
So far says Dr. Lu, the preliminary results are promising. If the combination of neratinib and Herceptin® is successful, then oncologists will begin to use the two together in the front-line setting to give patients the highest chance of a good response and durable remission. "The new chemotherapy regimen could offer more highly tailored treatments for the individual patient, better survival rates and less chance for recurrence," says Dr. Lu.

Breast Cancer Research

Patient Lori Meyer with Brian O’Hea, MD (left) Jules Cohen, MD, discussing his research project at the Cancer Center Research Retreat (right)



Can Senkal, PhD (left) Colette Pameijer, MD, and Berrin Monteleone, MD, at the Cancer Center Research Retreat (top right) Positron emission tomography (PET) scanner (lower right)



Can “targeted therapies” help patients live a fuller life and survive longer?

This question has long plagued physician-scientists, especially those who treat patients with HER-2 positive breast cancers, which are more aggressive and have poorer survival rates. However, a new international clinical trial has found that an innovative agent called TDM-1 offers patients a relatively nontoxic approach that also helps improve survival.

Stony Brook’s breast cancer program, in fact, is just one of three centers in the United States — including UCLA and Mayo Clinic — that have participated in the trial. TDM-1 is a novel molecule known as an antibody-drug conjugate, composed of Herceptin® that links to a

cytotoxic chemotherapy agent. The molecule targets only HER-2 positive breast cancer and therefore has minimal toxicity. Study results indicate that patients in the trial tolerated and survived better. The results will be published in the *Journal of Clinical Oncology* and is co-authored by Janice Lu, MD, PhD, recipient of the Carol M. Baldwin Breast Cancer Award.

In a follow-up study, Stony Brook is planning to begin a new clinical trial for patients who underwent neoadjuvant chemotherapy with TDM-1 if they did not have optimal response to chemotherapy prior to surgical resection.

In addition, there are a number of

other new drugs being evaluated at Stony Brook that may improve patient outcomes and quality of life during breast cancer treatment. One focuses on the resistance to anti-hormone therapy, which can be a tough issue for patients. PI3Kinase/AKT/mTOR is a pathway that has been correlated with hormonal resistance in breast cancer treatment. Stony Brook will offer a clinical trial with a new medication to be added to an anti-hormonal drug.

“It is an era of targeted therapy and individualized medicine,” says Dr. Lu. We are excited that we can provide patients with opportunities for novel targeted therapy for optimal treatment.”

Can a PET scan be used for early detection of some forms of breast cancer?

A collaborative pilot study between Stony Brook University Cancer Center’s bioimaging department and Brookhaven National Laboratory (BNL) in New York is funded by the U.S. Department of Energy. The focus of the study is to learn new ways to detect breast cancer before it is visible using standard imaging modalities such as a mammogram, MRI and/or ultrasound.

Led by BNL’s senior scientist Anat Biegon, PhD, with Stony Brook’s Jules Cohen, MD, the study uses radiotracers to image aromatase, an enzyme responsible for the production of estrogen. Because 50 to 60 percent of women with breast cancer have a form that is estrogen-positive, being able to identify and track this enzyme could have wide implications for treatment. In addition, it may yield new information about

alternative uses of aromatase inhibitors — compounds that can slow or stop the production of estrogen. Aromatase inhibitors currently are used in follow-up treatment for patients with breast cancer to cut down on the recurrence rates of cancer.

For the study, women with new diagnoses of breast cancer who have not yet had surgery or begun treatment undergo a PET scan. They are given the radiotracer vorozole, a compound that binds to aromatase, to help detect whether the enzyme is expressed. Researchers then review the results to see if they can diagnose breast cancer from the scans. To date, they have been able to.

“Our premise is that if we can detect known breast cancer with this receptor, it may have multiple applications, includ-

ing early detection,” says Dr. Cohen. “However, we may also be able to use this modality to monitor a patient’s responsiveness while using an aromatase inhibitor to ensure appropriate dose and optimal benefits. We might also be able to use it to monitor the therapy of patients with metastatic cancer as well.”

Dr. Cohen believes this study is just the tip of the iceberg. He envisions using different radiotracers with a PET scanner to detect neuroinflammation, or inflammation of the brain, in order to see which areas of the brain have been affected by chemotherapy. “This will allow us to make objective assessments of cognition and better understand what people call ‘chemo brain’ or ‘chemo fog,’ which has long been considered one of the major side effects of chemotherapy.”



Cungui Mao, PhD, and graduate student Jae Kyo Yi with members of the research team

Exploring Lipids Further

How do certain compounds regulate cell lipids and, in turn, biological responses?

For the past 10 years, scientist Cungui Mao, PhD, and his team have engaged in groundbreaking lipid research. They were the first, for example, to identify and clone three human alkaline ceramidases (ACER1, ACER2 and ACER3). These enzymes, which are made in different tissues, can induce tumor cell death and inhibit cell division or do the opposite — making them ideal subjects for potential new cancer therapies.

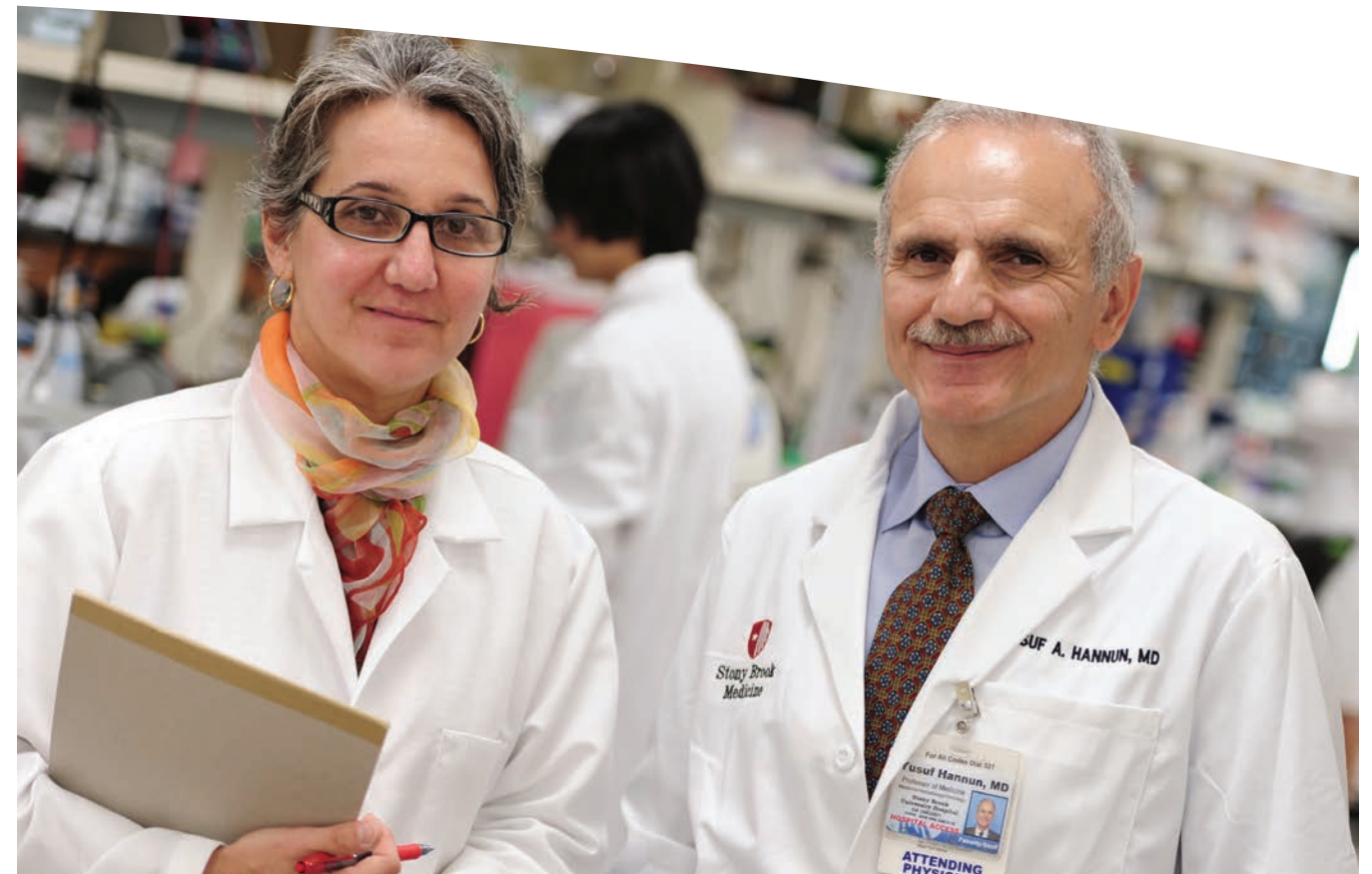
Recently, Dr. Mao and his team of five full-time researchers moved their research program to the Division of Cancer Prevention at Stony Brook University Cancer Center from the Hollings Cancer Center in South Carolina. With them comes a five-year grant from the NCI (preceded by a five-year NIH grant) to fund the research.

“Our hope with this novel research is to find new approaches and compounds to treat cancers and perhaps enhance or perfect chemotherapy drugs,” says Dr. Mao. “Because the expression of these enzymes is altered in skin cancer and colon cancer, these might be the first areas for which the research might be applicable. However, at present, we are still working with cell cultures and animal models. A major goal is to see if normalizing the expression of these enzymes in cancer cells can inhibit tumor growth.”

Before the research can go from bench to bedside, the group needs a deeper understanding of the mechanism of how ACER1-3 regulate sphingolipids (the substrates and the products of the enzymes) and how this, in turn, influences biological response. Their current

project is looking at three key areas: (1) the role of the alkaline ceramidases in tumorigenesis; (2) the role of the alkaline ceramidases in angiogenesis; and (3) the role of the alkaline ceramidases in modulating anti-cancer activity of chemotherapeutic agents.

Paving the way for this research, says Dr. Mao, is the identification of two members of the alkaline ceramidase family, first in yeast cells. “We saw a similarity in protein sequence between yeast enzymes and some proteins with unknown function in humans, which then led us to the identification of the human enzymes. While we work with human enzymes, we also use yeast cells because, as a single-celled organism, they are relatively easier to study both biochemically and genetically.”



Janet Allopenna and Yusuf A. Hannun, MD (top) Brittany Carroll (bottom left) Basil Rigas, MD, DSc, Vice President for Business Development and Dean for Clinical Affairs, School of Medicine, and Ellen Li, MD, PhD, Professor of Medicine and Microbiology and Molecular Genetics, and Interim Chief, Division of Gastroenterology and Hepatology (bottom right)



Grant Highlights

Targeted Research Opportunities

Stony Brook Medicine has received Targeted Research Opportunities (TRO) grants that will advance efforts in translational research in the areas of cancer, human genetics,

high-tech imaging, and biomedical engineering and technology development. Funding comes from a coordinated effort by the Office of Scientific Affairs and the Office of the Vice President for

Research with the Coulter Foundation, the Carol M. Baldwin Breast Cancer Research Fund, The Ward Melville Heritage Organization and the Catacosinos Fund.

American Cancer Society

Since 1946, the American Cancer Society (ACS) has contributed more than \$3.6 billion to cancer research worldwide to “Create A World With More Birthdays.” Nationwide, the ACS is currently funding 936 research grants totaling \$464,314,596. ACS-funded researchers have historically been a part of most major cancer breakthroughs.

For more than 27 years, the ACS has been a strong partner of Stony Brook Medicine in the areas of prevention, patient services and research. Since 1966, ACS has funded 146 grants totaling \$23,311,000 to researchers at Stony Brook. Currently, six grants are in effect, for a total of \$3,615,000.

The current grantees include:

- Edward L. Chan, MD, Department of Pediatrics, \$725,000 grant July 2009 through June 2014: RON as an Adjunct Biomarker for EGFR Expressing Head and Neck Cancer. Dr. Chan and his team are investigating tyrosine kinase receptors as predictors for a patient’s response for targeting chemotherapy, as well as identifying new targets for treatment of cancer. The ACS-funded project examines the RON receptor as biomarkers and targets for head and neck cancer.
- Dorothy Lane, MD, MPH, Department of Preventive Medicine, \$300,000 grant through December 2012: Physician Training Award in Preventive Medicine

- Dorothy Lane, MD, MPH, Department of Preventive Medicine, \$300,000 grant through December 2016: Physician Training Award in Cancer Prevention (Awarded January 2012)
- Valentina Schmidt, PhD, Department of Medicine, \$850,000 grant through December 2012: Role of GTPase-activating Proteins in Liver Carcinogenesis
- Natalia Marchenko, PhD, Department of Pathology, \$720,000 grant through June 30, 2015: Degrading Stabilized Mutant p53 in Cancer — A Novel Targeted Strategy
- Laurie T. Krug, PhD, Department of Molecular Genetics and Microbiology, \$720,000 grant through June 30, 2015: Regulation of Gammaherpesvirus Latency by NF-kappaB Signaling

National Institutes of Health Cancer Grants

Many Stony Brook Medicine physicians and scientists conduct research with the support of National Institutes of Health (NIH)-funded grants. Patrick Hearing, PhD, Department of Molecular Genetics and Microbiology, received renewal of the NIH-NCI Training Grant “Cancer Biochemistry and Cell Biology” until June 2013. The grant, which has run for 34 years, will bring in more than \$2 million to support the

training for seven pre-doctoral students and four post-doctoral fellows.

In addition, the following Stony Brook investigators have been recently awarded NIH cancer grants by the NCI:

- Richard Lin, MD, Departments of Medicine and Physiology and Biophysics, to study new inhibitors to prevent pancreatic cancer
- Jerome Liang, PhD, Department

of Radiology, Computer Science and Physics and Astronomy, to investigate the use of low-dose computed tomography in screening for lung cancer

- Jennie Williams, PhD, Center for Science and Mathematics Education, to determine the underlying mechanisms of the racial disparity in the response to chemoprevention in colon cancer

The Cancer Clinical Trials Office

The Cancer Clinical Trials Office assists Stony Brook University Cancer Center investigators in developing and completing scientifically valid clinical trials in an organized, cost-effective and methodologically sound manner. Major areas of responsibility include protocol activation and coordination, liaison with regulatory agencies (including the Institutional Research Review Board, National Institutes of Health, U.S. Food and Drug Administration and pharmaceutical companies), treatment safety monitoring, data management and the provision of research nursing support.

The overarching goal of the Cancer Center Clinical Trials program is to provide patients with the most innovative treatments for cancer. Clinical trials offer patients access to some of the most promising treatments for many types of cancers, and patients in clinical trials are among the first to receive new treatments before they are commonly available. Patient participation in clinical trials is vital to advancing treatments for specific

cancers, as this is the only mechanism by which the effectiveness of new treatments and new drugs can be determined. In fact, all of the most effective standard cancer treatments have come about because of their initial testing in clinical trials.

Because it is widely recognized that patients who participate in clinical trials experience outcomes that are at least as good, and generally better, as those for patients who are not enrolled in trials, Stony Brook patients who qualify are given the opportunity to participate in the Clinical Trials program. All clinical trials conducted at the Cancer Center are managed by experienced physicians who oversee the patient’s treatment for maximum safety and comfort.

The physician-investigators of the Cancer Center are involved in a number of interdisciplinary, multicenter, clinical trials groups, including the Eastern Cooperative Oncology Group (ECOG), the Children’s Oncology Group (COG), the American College of Surgeons Oncology Group (ACOSOG), the

National Surgical Adjuvant Breast and Bowel Project (NSABP), the Gynecologic Oncology Group (GOG) and the Radiation Therapy Oncology Group (RTOG). The Cancer Center Clinical Trials Office plays a critical role in these activities.

In addition, the Office coordinates physician-initiated in-house therapeutic trials and phase I, II and III pharmaceutical-sponsored research trials. Approximately 150 protocols are available to patients with different types of cancer. Research nurses coordinate research activities and provide advocacy, care and education for patients receiving cancer protocol treatment.

Information on the availability of cancer-related clinical trials is given to patients through the research coordinator and nurse navigators, as well as through patient information brochures and pamphlets, websites, patient information packets, the patient library and patient support group seminars on clinical trials.

The Stony Brook Biobank

Established in 2004 in the Department of Pathology by Stony Brook Medicine and the Stony Brook University School of Medicine, this facility banks normal, abnormal and malignant tissue specimens and serum to support the discovery of

molecular diagnostics and markers of disease progression. This team works closely with cancer surgeons and other principal investigators to obtain tissue specimens under informed patient consent. Banking biomedical tissue,

stored under cryogenic conditions for medical research, provides the opportunity for state-of-the-art collaborations in clinical research.

Physician Education:

Inspiring the Next Generation of Cancer Doctors



Jincy Clement, MBBS, Shilpan Shah, MD, and Shemin Saferali, MD

As an academic medical institution dedicated to clinical, research and educational excellence, Stony Brook Medicine is responsible for educating the next generation of physicians. In conjunction with the School of Medicine, the Cancer

Center helps train doctors in oncology through two programs. One is a rotation through pediatric oncology for all pediatric residents. The second is a post-graduate fellowship in adult hematology/oncology. Both rest on the foundation of the Cancer

Center's approach to cancer medicine: delivering integrated, individualized, multidisciplinary care for a complex disease that takes into account every aspect of a patient's life, not just his or her medical care.

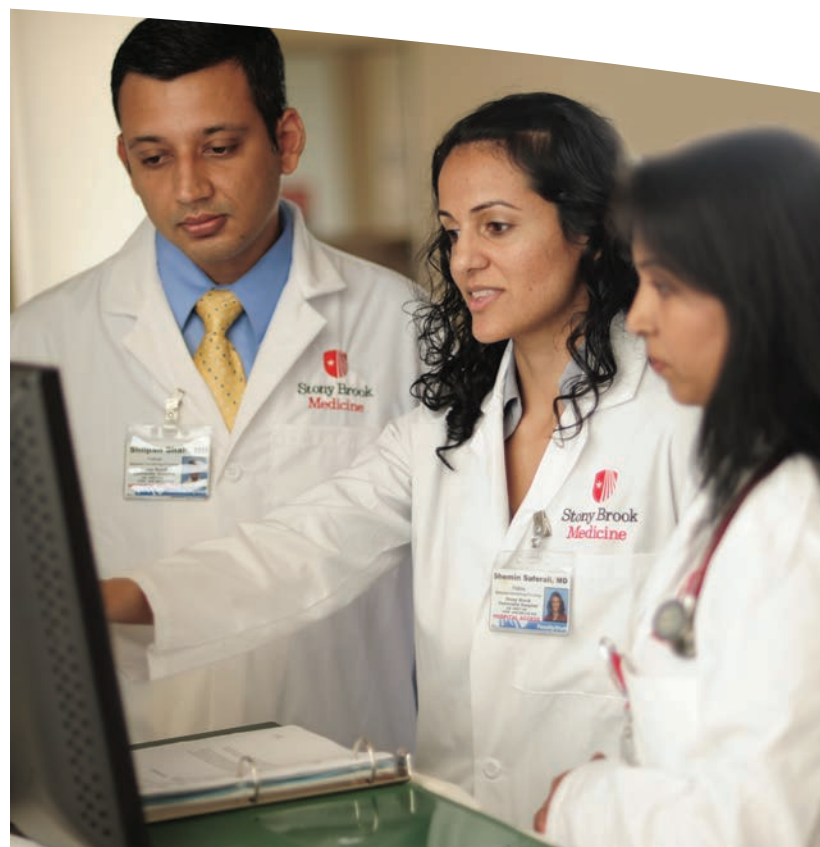
The Hematology/Oncology Fellowship Program

This three-year post-graduate program, overseen by Theodore Gabig, MD, Chief, Division of Adult Hematology/Oncology, is open to physicians who have completed their internal medicine residency and are licensed to practice in the State of New York. It is highly selective — choosing just three fellows per year out of a field of more than 110 applicants from all over the world — and unique in that there is an additional slot available for a candidate on the

physician-scientist track.

“For physicians interested in translational research, Stony Brook offers several key advantages,” explains Dr. Gabig. “We have strong departments of medicine and epidemiology, a focus on basic biology and drug development, and a patient population that accurately represents any disease physicians are likely to encounter, including the rare ones that typically get referred to academic medical institutions.”

The fellowship training includes participation on the Disease Management Teams, which gives fellows exposure to managing a disease from all perspectives — surgical-oncology, radiation therapy, ancillary services — not just from a medical oncology perspective. “This gives them broad exposure to multiple points of view,” says Dr. Gabig, “which, in turn, teaches them to speak the language of other consultants and be comfortable looking at the big picture.”



Oncology Training for Pediatric Residents

Every pediatric resident at Stony Brook University School of Medicine has at least two rotations in pediatric oncology, something Program Director Robert Parker, MD, believes is critical in their training to becoming thoughtful, caring and informed doctors. “Typically, residents and medical students have exposure to pediatric patients with cancer in an inpatient setting when patients often are very ill,” says Dr. Parker. “Here at the Cancer Center, we also expose residents to patients in our outpatient center so that they can see what the life of a patient with cancer is really like. We want them to work with patients in remission and patients who are back in school. We want them to understand that even though they are dealing with cancer, these kids want to be and generally are healthy and active. We want them to get to know the

families, learn to make medical decisions considering psychosocial as well as medical factors, and ultimately to understand that cancer care is a highly personal field and the way we deliver care needs to reflect that.”

He also emphasizes the focus on quality-of-life issues. “We tell the residents that we begin treatment expecting to cure every child, even when we know that is not currently possible. However, with this approach to patient care, we must pay attention to what happens post care in our patients. When making decisions on treatment, they have to consider the long-term ramifications without compromising quality of care. We are constantly challenging them on how to weigh the best interest of the child in the short term versus the long term. These are subtle, sophisticated skills, but vital in children’s medicine.”

Shilpan Shah, MD, Shemin Saferali, MD, and Jincy Clement, MBBS (left) Robert Parker, MD, and pediatric residents Kristen Hawkins, MD, and Laurie Campfield, MD, with patient Elijah Rosario and his mother Lorien Rosario (top right) Shemin Saferali, MD (bottom right)

Dr. Parker believes the program gives residents a strong foundation for pursuing fellowship training in pediatric oncology and it has, in fact, inspired former Stony Brook residents to pursue careers in pediatric oncology. But just as important, oncology training is a good role model for all residents in how to care for all patients. It provides them with the tools and the experience to deal with complex disease processes that produce a high level of anxiety for both children and parents — the ramifications of which affect every part of a patient’s life far beyond the hospital walls. “These are highly translatable skills,” says Dr. Parker. “In our program, residents recognize that the care they deliver to children is not just for the specifics of the disease process, but for their whole life.”

Nursing: Inspiring Patient and Family Centered Care

As cancer medicine grows more effective and survivorship is the norm rather than the exception, cancer programs like the one at Stony Brook University Cancer Center have made patient quality of life during treatment a priority. At the Cancer Center, nursing services play a lead role. Building on the foundation of patient and family

centered care — whose core elements include dignity, respect, information sharing, and collaboration and participation — Stony Brook oncology nurses are vital members of the Disease Management Teams, contributing during the full spectrum of cancer care. They work in both inpatient and outpatient settings, serve as the liaison with patients

regarding clinical trials, participate in leading-edge research and implement key quality-of-life interventions to ensure best possible patient outcomes. The Cancer Center’s nurses are highly experienced with a significant number holding oncology nursing certification and the majority participating in ongoing continuing education annually.

Nurse Navigators: Coordinated Care, Ongoing Support

Stony Brook’s nurse navigator program started in 2006 with a single Disease Management Team: lung cancer. Today, the Cancer Center provides nurse navigation services for the breast, urologic, head and neck, upper gastrointestinal, orthopedic oncology and sarcoma, and melanoma Disease Management Teams, as well as similar services for the lymphoma, leukemia and transplant team. As representatives of Stony Brook’s approach to individualized cancer medicine, nurse navigators are the main contact for patients and their families during treatment. They ensure

continuity of care, coordinate appointments, help keep treatments on track, review medications and possible side effects with patients and participate in Tumor Board and additional team meetings. They also direct patients to resources such as support groups, financial assistance and community services, and connect them with organizations such as the Long Island chapter of the American Cancer Society. In short, they are instrumental in following up and following through.

“I think this program shows the patients that their care and entire course

of treatment are very important to us,” says Jeanne Gaspard, RN, MSN, OCN, Assistant Director of Nursing. “Until you have cancer, you have no idea how complex the healthcare system can be. Our nurse navigators not only coordinate the care, but they also provide that needed one-to-one interaction. They visit patients when they come out of surgery, stop by during chemotherapy sessions, and call patients to see how they are doing. They become the friendly face and the familiar voice of the cancer program, lending that extra support when patients need it most.”

Jeannie Gaspard RN, MSN, OCN, Assistant Director of Nursing, Outpatient Cancer Services; Luka Sadzaglishvili, RN, MBA, Assistant Director of Nursing, Oncology/Bone Marrow Transplant; Lee Anne Xippolitos, RN, PhD, Chief Nursing Officer, Stony Brook Medicine and Dean, Stony Brook University School of Nursing; and Rose Cardin, RN, MSN, Associate Director of Nursing and Operations, Cancer Services (left) Clinical Nurse Specialists Josephine LoBrutto, NP, Patty Doly, RN, Regina Diblasi, RN, and Brenda Sheehan MS, ANP-bc, OCN (top right) Liliana Castro, RN, and Laura Farrell, RN (bottom right)



Clinical Nurse Specialists: Quality Care Initiatives

On the inpatient side, oncology clinical nurse specialists work to improve patient outcomes through the delivery of evidence-based care. This means that all patient care and bedside interventions are based on scientifically proven and measurable protocols. Some of the key care initiatives include

preventing central-line infections, preventing wounds and decreasing patient falls. The clinical nurse specialist directs unit-specific quality and patient safety processes, helping to ensure best practices to improve quality measures. Monitoring and reporting the National Database of

Nursing Quality Indicators supports the processes, which help to improve staff and patient-family satisfaction. The clinical nurse specialist's aim is to execute patient satisfaction initiatives, ensure service excellence and enhance the patient-family experience.

Clinical Trials Nurses: Matching Patients with Studies

In addition, the Cancer Center has a separate Clinical Trials Department staffed with clinical trials nurses. These nurses are primarily responsible for directing patients into the clinical trials that are available at the Cancer Center.

Part of their job, however, involves patient education: explaining what clinical trials entail, why a patient may want to be a part of one, how the trials are not "experimental" treatments but typically minor

variations on the best-in-field protocols, that participation is voluntary and how a particular trial might benefit them. They also process the paperwork and patient consents, make ongoing assessments and perform data collection.

Outreach and Education: Inspiring the Community

As a dedicated steward of community health, Stony Brook Medicine is committed to helping individuals through educational programs, support services and partnerships with community-based organizations. This has manifested in a number of ways: providing workshops, lectures, seminars and screenings; working with school districts to teach students about nutrition, exercise and the dangers of tobacco; and providing child safety information to parents, educators and school nurses.

Stony Brook University Cancer Center hosted eight on-site educational presentations during 2011. A panel of physicians, representing various aspects of cancer care, spoke on topics pertaining to specific cancers. In May, 95 community members came to a free screening for skin cancer. Additionally, 1,081 men attended prostate cancer

screenings and 96 individuals were evaluated for oral cancer, at no cost. Education about the dangers of tobacco use and secondhand smoke was provided to 140 individuals.

The American Cancer Society sponsored Camp Adventure, a sleepover camp for children with cancer and their siblings. Typically, 30 to 40 percent of children attending annually come from Stony Brook, and several of the camp counselors are "graduates" of the Stony Brook program. Staff members, including registered nurses and nurse practitioners, volunteer to help ensure that children receive their medications during camp week. Division Chief Robert Parker, MD, is the consulting oncologist for the camp and a regular on-site volunteer.

Partnering with the Suffolk County Department of Health's Office on Minority Health, Stony Brook also

provides free screenings, prevention/education and health insurance assistance programs. A multidisciplinary committee meets regularly to address the cultural diversity needs of our patients.

More than 600 community members attended the eighth annual Cancer Survivors Day celebration on June 10. The event's inspirational speaker, Ted Kennedy Jr., a civil rights activist and disability and healthcare policy expert, spoke about his own diagnosis of bone cancer at age 12. His heartfelt stories of interactions with doctors, nurses and the healthcare system during his diagnosis and treatment were poignant and illustrated the progress that has been made in the past four decades. Mr. Kennedy met with Cancer Center patients and their families, encouraging them in their own survivorship journeys.

Colette Pameijer, MD, at the skin cancer screening (left)
Ted Kennedy Jr. (right)



A Collaborative Approach: Improving the Quality of Life for Patients with Cancer

American Cancer Society provides onsite patient navigators at the Cancer Center five days a week, donates funds to Stony Brook cancer research, sponsors Look Good...Feel Better® and Luzca Bien...Siéntase Mejor, and sponsors Camp Adventure for pediatric oncology patients.

Beth C. Tortolani Foundation sponsors the Fit and Fabulous Program, a free weekly yoga class led by a Stony Brook physical therapist for patients after breast cancer treatment.

Firefighters Cancer Support Network offers both a cancer peer-mentoring course and caregiver's course for firefighters and their families in

conjunction with Stony Brook.

The Leukemia & Lymphoma Society provides an onsite patient navigator at the Cancer Center two days a week.

Livestrong® Foundation provides Cancer Transitions, a program to help those with cancer transition from patient to survivor. The foundation also sponsors an online support group facilitated by a social worker from the Cancer Center.

Strength for Life is a free exercise class for patients with cancer and staff.

Stony Brook University Athletics participates in the Play It Forward program, where Stony Brook student-athletes interact with and offer social

support to pediatric oncology patients; and in Play for Kay, an annual Stony Brook women's basketball game that helps raise awareness of breast cancer.

Soup for Lunch is offered at no cost every other week at the Cancer Center. Patients and their families can enjoy a warm treat before, during or after their outpatient appointments.

The Ward Melville Heritage Organization coordinates, in conjunction with several Stony Brook Medicine departments, the annual Walk for Beauty event to raise awareness of breast cancer as well as raise funds for breast cancer research at Stony Brook.

Education and Support Programs: Empowering Patients through Knowledge and Support

La Herencia is an annual education program in Spanish about nutrition, patient issues, survivorship, follow-up care and emotional needs.

Chemotherapy Orientation is a detailed overview of chemotherapy tips and techniques given by oncology nurses.

Nutritional Lectures are offered quarterly by the Cancer Center's nutritionist on topics relevant to patients with cancer, before, during and after treatment.

Pediatric Parent Showcase is an interactive evening between pediatric oncology staff and parents of pediatric

patients dedicated to helping those involved in pediatric cancer.

School Re-Entry Program is a program designed to help a child diagnosed with cancer return to school by addressing the student's psychosocial, medical and educational needs.

Quality and Standards

2011 Cancer Site Distribution at Stony Brook Medicine, Stony Brook, NY												
Primary Site	Patient Type			Gender		AJCC TNM Stage Group*						
	Total	New	Re-tx	Males	Females	In situ	Stage I	Stage II	Stage III	Stage IV	Unk	N/A
All sites	3070	2357	713	1294	1776	280	854	471	353	422	249	441
Oral Cavity	41	35	6	26	15	0	8	3	7	20	3	0
Lip	0	0	0	0	0	0	0	0	0	0	0	0
Tongue	9	8	1	6	3	0	1	0	1	6	1	0
Oropharynx	2	2	0	0	2	0	0	1	0	1	0	0
Hypopharynx	2	2	0	1	1	0	0	1	0	1	0	0
Other Oral	28	23	5	19	9	0	7	1	6	12	2	0
Digestive System	423	306	117	243	180	8	65	75	103	108	54	10
Esophagus	36	19	17	23	13	0	6	5	16	5	4	0
Stomach	52	41	11	34	18	0	10	11	8	11	11	1
Colon	91	63	28	58	33	4	10	15	18	29	15	0
Rectum	42	34	8	26	16	1	11	5	17	3	5	0
Anus/Anal Canal	17	11	6	3	14	1	4	3	8	0	1	0
Liver	38	25	13	29	9	0	10	2	6	10	5	5
Pancreas	105	78	27	51	54	2	11	28	19	39	6	0
Other	42	35	7	19	23	0	3	6	11	11	7	4
Respiratory System	351	255	96	166	185	2	85	30	57	138	37	2
Nasal Sinus	6	6	0	5	1	0	4	0	0	0	0	2
Larynx	13	13	0	11	2	1	4	2	3	3	0	0
Lung/Bronchus	327	232	95	145	182	1	77	28	54	131	36	0
Other	5	4	1	5	0	0	0	0	0	4	1	0
Blood/Bone Marrow	179	90	89	99	80	0	0	0	0	0	0	179
Leukemia	107	61	46	60	47	0	0	0	0	0	0	107
Multiple Myeloma	48	23	25	24	24	0	0	0	0	0	0	48
Other	24	6	18	15	9	0	0	0	0	0	0	24
Bone	5	5	0	3	2	0	0	1	0	2	2	0
Connective/Soft Tissue	26	23	3	14	12	0	10	5	4	2	5	0
Skin	161	139	22	98	63	38	63	24	15	4	12	5
Melanoma	152	131	21	90	62	37	63	21	15	4	9	3
Other	9	8	1	8	1	1	0	3	0	0	3	2
Breast	589	487	102	2	587	125	226	126	41	28	43	0
Female Genital	266	194	72	0	266	69	100	10	28	31	26	2
Cervix Uteri	83	63	20	0	83	54	13	2	7	4	3	0
Corpus Uteri	102	76	26	0	102	0	65	4	6	12	14	1
Ovary	49	33	16	0	49	0	15	2	14	11	7	0
Vulva	22	13	9	0	22	11	6	1	1	3	0	0
Other	10	9	1	0	10	4	1	1	0	1	2	1
Male Genital	273	202	71	273	0	0	72	140	17	21	23	0
Prostate	253	184	69	253	0	0	61	138	13	20	21	0
Testis	17	15	2	17	0	0	10	1	4	0	2	0
Other	3	3	0	3	0	0	1	1	0	1	0	0
Urinary System	186	154	32	132	54	38	78	18	12	23	13	3
Bladder	82	61	21	60	22	32	16	9	5	12	7	0
Kidney/Renal Pelvis	98	88	10	68	30	2	62	8	7	11	6	2
Other	6	5	1	4	2	4	0	1	0	0	0	1
Brain and CNS	144	121	23	67	77	0	0	0	0	0	0	144
Benign	9	9	0	5	4	0	0	0	0	0	0	9
Malignant	46	41	5	25	21	0	0	0	0	0	0	46
Other	89	71	18	37	52	0	0	0	0	0	0	89
Endocrine	242	210	32	69	173	0	120	12	38	13	10	49
Thyroid	193	178	15	49	144	0	120	12	38	13	10	0
Other	49	32	17	20	29	0	0	0	0	0	0	49
Lymphatic System	129	88	41	80	49	0	26	25	27	29	21	1
Hodgkin's												
Lymphoma	25	22	3	18	7	0	4	11	3	4	3	0
Non-Hodgkin's												
Lymphoma	104	66	38	62	42	0	22	14	24	25	18	1
Other/ill-defined	13	10	3	4	9	0	1	1	4	3	0	4
Unknown Primary Site	42	38	4	18	24	0	0	0	0	0	0	42

*American Joint Committee on Cancer (AJCC) Tumor-Node-Metastasis (TNM) staging system includes all inpatients and outpatients first seen in 2011 at Stony Brook Medicine.

The Cancer Registry Department

The Cancer Registry maintains a computerized database of cancer patient information on all tumor types. Case ascertainment includes search and analysis of all inpatient, same-day stay, emergency room admissions, ambulatory and clinic encounters as well as physician practice visits for cancer care. Currently, the database contains 52,256 tumor records and maintains follow-up and outcome analysis on 33,042 analytic cases, thus providing resource information for administrative planning purposes, staff and patient education, and quality studies in clinical outcomes measurement.

After undergoing rigorous quality checks and assessments, registry data is

regularly submitted to the New York State Central Cancer Registry as well as the National Cancer Data Base, and plays an integral part in meeting regulatory standards for on-site surveys. In the Cancer Registry's participatory efforts to meet and exceed nationwide quality standards, Stony Brook Medicine was honored by the American College of Surgeons Committee on Cancer with an Outstanding Achievement Award, one of only 106 institutions in the nation to receive this distinction. Registry data is also provided to the National Accreditation Program for Breast Centers for site surveys. Once again,

Stony Brook's Carol M. Baldwin Breast Care Center achieved accreditation for an additional three years.

In accordance with both New York State law and the Commission on Cancer, all of Stony Brook Medicine's cancer registrars are certified, and must participate in continuing medical education seminars, thus offering substantive input at all cancer conferences and committee meetings. They are active in professional association activities and continue to retain membership in both the National Cancer Registrars Association and Long Island Cancer Registrars Association.

New Patients with Cancer at Stony Brook Cancer Center										2000-2011 Year-to-Year Trends		
Year	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
New Patients	2,248	2,238	2,252	2,200	2,334	2,381	2,482	2,618	2,738	2,863	3,052	3,070
Year-to-Year Change	Baseline	-10	+14	-52	+134	+47	+101	+136	+120	+125	+189	+18
		(-0.4%)	(+0.6%)	(-2.3%)	(+6.1%)	(+2.0%)	(+4.2%)	(+5.5%)	(+4.6%)	(+4.6%)	(+6.6%)	(+0.07%)

Source: Stony Brook Cancer Center Cancer Registry database all accessions.
New Patients with Cancer at Stony Brook Cancer Center 2000-2011 Trends

Tumor Boards

Tumor Board conferences are a key component of the Cancer Care Program and integral to patient management at Stony Brook Medicine. They provide a valued forum for education, consultation

and collaboration. Disease Management Teams present cases for diagnostic assessment, while referencing national treatment guidelines, clinical research protocols and other relevant literature

for treatment planning, to obtain the best clinical outcome for our patients. Currently, eight of 13 Tumor Boards offer AMA Category 1 CME credits to eligible attendees.

Tumor Board Schedule - Stony Brook Medicine 2012					
Breast CME	Fridays, 7:30 am	Weekly	Neurologic Oncology	Tuesdays, 5 pm	Week 3
Colorectal CME	Fridays, 2 am	Weeks 1 and 3	Pediatric	Mondays, 4 pm	Weeks 2 and 4
Gynecologic Oncology CME	Wednesdays, 7 am	Weeks 1 and 3	Sarcoma CME	Tuesdays, 7:30 am	Week 4
Head and Neck and Thyroid	Tuesdays, 7:30 am	Week 3	Upper GI and General Oncology	Tuesdays, 7:30 am	Week 3
Leukemia/Lymphoma CME	Fridays, 9:30 am	Weeks 1, 3 and 4	Urologic CME	Tuesdays, 7:30 am	Weeks 2 and 4
Liver	Mondays, 2:30 pm	Week 1			
Lung CME	Wednesdays, 3:30 pm	Weeks 1 and 3			
Melanoma CME	Fridays, 7:30 am	Week 4			

Meetings are held in the Pathology Conference Room 766, Hospital Level 2. Exceptions are Melanoma, held in Surgical Conference Room, Health Sciences, T19-020; Urology (4th Tuesday) in the Urology Conference Room, Health Sciences, L9. Clinical faculty, Health Science students and clinical staff are invited to attend.

Quality Management

Cancer Center leadership works to ensure the delivery of safe, effective, efficient and accessible patient care through focused care programs and targeted quality management tools, which encourage the creation, assessment, re-evaluation and redesign of

processes and systems. Using input from site-focused Disease Management Teams, data are collected on selected indicators and compared on Cancer Services Balanced Scorecards and Cancer Services Dashboards. Selected site-focused outcome studies using National

Comprehensive Cancer Network treatment guidelines and Commission on Cancer Standards are reviewed and published annually. Efforts to monitor quality and improve care is a progressive movement toward a High Reliability Organization, error free over time.

Cancer Liaison Physician

The cancer liaison physician is a liaison between Stony Brook University Hospital and the community, between the national standards organizations and the Hospital, between the Cancer Committee and various departments at Stony Brook Medicine and represents the Cancer Center on the Cancer Committee. The liaison collaborates with the Cancer Committee to meet and exceed cancer program standards and improve clinical practices. The liaison works with Disease Management Teams to develop best practices, evaluate compliance with adopted guidelines, expand participation in clinical trials and improve

quality of care. The liaison also works with local agencies and the American Cancer Society on community outreach and education, as well as participates in peer group meetings to provide direction according to criteria established by the American College of Surgeons Commission on Cancer (CoC). Stony Brook also works with the New York State Consortium toward comprehensive cancer control.

During the past fiscal year, important milestones have been reached for cancer services at Stony Brook. In March, the Cancer Committee welcomed Yusuf Hannun, MD, as the new Director of the Cancer Center. Under his leadership,

the cancer liaison, along with many other key faculty, has been focused on redesigning the structure of cancer services. With a renewed focus on quality initiatives and the integration of clinical medicine and research at Stony Brook, the team is ready to bring cancer care to the next level. The goal is to provide patients with not just excellent care, but innovative, state-of-the-art treatment options.

In April, the Carol M. Baldwin Breast Care Center was reviewed by the National Accreditation Program for Breast Centers. Again, the Center received a full three-year accreditation with commendation.

The Cancer Committee

The Cancer Committee is the designated multidisciplinary body for the administrative oversight, development and review of the cancer program at Stony Brook Medicine. Involved with the care of patients with cancer, representatives from medical, surgical, diagnostic and clinical areas along with supportive services are included. Members include clinicians from Medical Oncology, Pediatric Oncology, Surgery, Radiation Oncology, Pathology, Diagnos-

tic Radiology and Survivorship. Hospital Administration, Nursing, Social Work, Cancer Registry, Pharmacy, Quality Assurance, Nutrition, Physical Rehabilitation, Healthcare Teleservices, Clinical Trials, Patient Advocacy and Community Outreach, and the Chaplaincy augment the Committee's designation as multidisciplinary. The American Cancer Society is also included as a permanent member of the Committee.

Charged with providing leadership,

the Cancer Committee must plan, initiate, stimulate and assess the institution's cancer-related activities in accordance with the Commission on Cancer's requirements for cancer program accreditation. Stony Brook University Cancer Center earned recognition as a Teaching Hospital-Approved Cancer Program with full commendation on all standards during the last survey, as well as the distinction of an Outstanding Achievement Award.

Physician Members

Theodore G. Gabig, MD, Hematology/Oncology, Committee Chair
Colette Pameijer, MD, Surgery, Cancer Liaison Physician

Sajive Aleyas, MD, Thoracic Surgery
Roberto Bergamaschi, MD, PhD, Colorectal Surgery
Frederick Gutman, MD, Neurosurgery
Lynn Hallarman, MD, Survivorship and Supportive Care
Melissa Henretta, MD, MPH, Gynecologic Oncology
Andrzej Kudelka, MD, Medical Oncology
Seth O. Mankes, MD, Diagnostic Radiology
Brian O'Hea, MD, Breast Surgery
Robert I. Parker, MD, Pediatric Hematology/Oncology
Michael W. Schuster, MD, Leukemia, Lymphoma and Transplantation
Meenakshi Singh, MD, Pathology
Tamara Weiss, MD, MS, Radiation Oncology

Non-Physician Members

Teresa Beutel, MS, Healthcare Teleservices
Linda Bily, Patient Advocacy and Community Outreach Coordinator
Rose C. Cardin, RN, MSN, Cancer Services Administration
Jennifer Fitzgibbon, MS, RD, Oncology Nutrition
Jeannie Gaspard, RN, MSN, OCN, NEA-BC, Ambulatory Cancer Center Administration
Patricia Hentschel, NP, OCN, Clinical Trials
Susan McCarthy, MS, LMSW, Social Work
Christine Northam-Schuhmacher, RN, BSN, MS, Quality Management
Candiano Rienzie, DPT, Physical Rehabilitation
Grace Swensson, MS, CCS, CTR, Cancer Registry and Committee Coordinator
Lori Tischler, RN, Cancer Helpline
Stephen Unger, Chaplaincy
Jacqueline Wands, American Cancer Society
Scot Weber, RPh, Pharmacy

Professional Education in Cancer July 2011 - June 2012

All conferences were held at Stony Brook University and Stony Brook Medicine (unless otherwise noted).

PROGRAM TITLE	DATES	DEPARTMENT
July - December 2011		
Hematology Oncology Leukemia Lymphoma Transplantation Conference Tumor Board	July 1, 15, 22, 29; Aug. 5, 19, 26; Sept. 2, 16, 23, 30; Oct. 7, 21, 28; Nov. 4, 18, 25; Dec. 2, 16, 23	Medicine
Cardiothoracic Surgery: Lung Cancer Evaluation Center Tumor Board	July 6, 20; Aug. 3, 31; Sept. 14, 21; Oct. 5, 19; Nov. 2, 16; Dec. 7, 21	Surgery
Radiology Grand Rounds: Cartilage Tumors	July 6	Radiology
Surgery: Breast Conference Tumor Board	July 8, 15, 29; Aug. 5, 12, 19, 26; Sept. 2, 9, 16, 23, 30; Oct. 7, 14, 28; Nov. 4, 11, 18; Dec. 2, 9, 16	Surgery
Liver Tumor Board	July 11; Sept. 12; Oct. 3; Nov. 7	Radiology
Urology Tumor Board	July 12, 26; Aug. 9, 23; Sept. 13, 27; Oct. 11, 25; Nov. 8, 22; Dec. 13	Urology
Surgery Colorectal Tumor Board Conference	July 15; Aug. 5, 19; Oct. 21; Nov. 4; Dec. 2, 16	Surgery
Gynecology (GYN) Oncology Tumor Board	July 20; Aug. 3; Sept. 21; Oct. 5, 19; Nov. 2, 16; Dec. 7, 21	OB/GYN
Pathology Grand Rounds: Basic Radiation Pathology	July 20	Pathology
Pathology Grand Rounds: Cancer and Thrombosis	July 27	Pathology
Urology Grand Rounds: Advances in the Treatment of Prostate Cancer	Aug. 17	Urology
Surgery Melanoma Conference Tumor Board	Aug. 19; Sept. 23; Oct. 21; Nov. 18	Surgery
Medicine Grand Rounds: The Good, Bad and Ugly of Antiangiogenesis Therapy for Cancer Patients	Sept. 7	Medicine
Pathology Grand Rounds: Demystifying Common Inflammatory Skin Lesions	Sept. 14	Pathology
23rd Annual Conference on Mammography	Sept. 17	Office of Continuing Medical Education
Pathology Grand Rounds: Hepatocellular Carcinoma	Sept. 28	Pathology
Urology Grand Rounds: Incidental Renal Mass in a Patient with Stones	Sept. 28	Urology
Pathology Grand Rounds: HTLV1 - The Forgotten Retrovirus	Oct. 5	Pathology
Neurosurgery Cerebrovascular Conference: H-Neural Cell Carcinoma	Oct. 5	Neurosurgery
Radiology Grand Rounds: Scary Lesions: Trick or Treat	Oct. 7	Radiology
Surgery Vascular Surgery Conference: The Decision Making Process for Aneurysm Repair in Cancer Patients	Oct. 10	Surgery
Neurosurgery Cerebrovascular Conference: Left Temp Mass x2, Meningioma	Oct. 19	Neurosurgery
Neurosurgery Cerebrovascular Conference: Meningioma	Oct. 26	Neurosurgery
Obstetrics/Gynecology (OB/GYN) Grand Rounds: Music and Cancer	Oct. 26	OB/GYN
Pathology Grand Rounds: Current Concepts in Cancer Immunotherapeutics	Oct. 26	Pathology
Radiology Grand Rounds: Bone-Forming Bone Tumors	Oct. 26	Radiology
Radiology Grand Rounds: MRI of Rectal Cancer	Oct. 27	Radiology
OB/GYN Grand Rounds: Cancer Genetics	Nov. 2	OB/GYN
Lung Cancer Update 2011	Nov. 5	Surgery
OB/GYN Chairman's Rounds: Uterine Cancer	Nov. 7	OB/GYN
Medicine Grand Rounds: Challenges in Colorectal Cancer Screening	Nov. 16	Medicine
Pathology Grand Rounds: KRAS Testing in Surgical Pathology	Nov. 16	Pathology
Surgical Grand Rounds: Breast Pathology: Selective Cases	Nov. 16	Surgery
Cancer Center Grand Rounds: New Therapeutic Strategies for Acute Lymphoblastic Leukemia	Nov. 29	Pediatrics
Pathology Grand Rounds: Selective Review of Bone Tumors	Nov. 30	Pathology
Pathology Grand Rounds: Mature T-Cell Malignancies: Two Case Presentations and a Selective Review of Literature	Dec. 7	Pathology
OB/GYN Case Conferences/Ultrasound: Cervical Cancer	Dec. 28	OB/GYN

PROGRAM TITLE	DATES	DEPARTMENT
January - June 2012		
GYN Oncology Tumor Board	Jan. 4, 8; Feb. 1, 15, 22; March 7, 28; April 11; May 2, 30; June 6, 20	OB/GYN
Cardiothoracic Surgery Lung Cancer Evaluation Center Tumor Board	Jan. 4, 18; Feb. 1, 15; March 7, 21	Surgery
Breast Conference Tumor Board	Jan. 6, 13, 20, 27; Feb. 3, 10, 17, 24; March 2, 9, 16, 23, 30; April 6, 13, 20, 27; May 4, 11, 18, 25; June 1, 8, 15, 22, 29	Surgery
Hematology/Oncology Leukemia Lymphoma Transplantation Conference Tumor Board	Jan. 6, 20, 27; Feb. 17, 24; March 2, 16	Medicine
Urology Tumor Board	Jan. 10, 24; Feb. 14, 28; March 13, 27; April 24; May 8; June 12, 26	Urology
Melanoma Conference Tumor Board	Jan. 20; Feb. 17; March 16; April 20; May 18; June 15	Surgery
Orthopaedic Surgery Grand Rounds: Musculoskeletal Tumor Surgery: Early Experiences in Building a Tumor Practice	Jan. 4	Orthopaedics
OB/GYN Grand Rounds: Breast Cancer Management	Jan. 11	OB/GYN
Pathology Seminars in Pathology: A Continuing Update: Metastatic Breast Cancer	Jan. 18	Pathology
Radiology Grand Rounds: Fibrous Lesions and Tumor-Like Lesions of Bone	Jan. 18	Radiology
Cancer Center Grand Rounds: Radiosurgery with Interleaved Heavy Ion Minibeams and Other Minibeams Geometries	Jan. 31	Pediatrics
Pathology Seminars in Pathology: A Continuing Update: Hernia Sac Surprise: Peritoneal Lesions	Feb. 1	Pathology
Pediatric Grand Rounds: Limb Salvage for Pediatric Bone Sarcomas	Feb. 1	Pediatrics
Colorectal Tumor Board Conference	Feb. 3, 17; March 2, 16; April 20; May 4, June 1, 15	Surgery
Liver Tumor Board	Feb. 6; March 5, 29; April 9, 26; May 14, 31; June 11, 21	Radiology
OB/GYN Grand Rounds: Applications of New Radiation Therapy Technology in the Management of Patients with Breast and Gynecologic Malignancies	Feb. 8	OB/GYN
Pathology Seminars in Pathology: A Continuing Update: Molecular Analysis of Thyroid Cancer	Feb. 15	Pathology
Surgical Grand Rounds: Adrenal Incidentaloma	Feb. 22	Surgery
Urology Grand Rounds: Chemotherapy for Testicular Cancer	Feb. 22	Urology
Pediatric Grand Rounds: Pediatric Cancer Therapy in the Age of Genomics	Feb. 29	Pediatrics
Urology Grand Rounds: Radiotherapy for Treatment of Prostate Cancer	Feb. 29	Urology
Dermatology Grand Rounds: Update in Cutaneous Oncology	March 1	Dermatology
OB/GYN Chairman's Rounds: Cervical Dysplasia	March 7	OB/GYN
OB/GYN: Triple Negative Breast Cancer	March 14	OB/GYN
OB/GYN Case Conferences/Ultrasound: Sarcomas	March 21	OB/GYN
38th Annual Family Medicine Update	March 21-23	Office of Continuing Medical Education
Pathology Seminars in Pathology: A Continuing Update: Melanoma and TILs: That's Brisk Baby	March 28	Pathology
Urology Grand Rounds: Carcinoma of Prostate/TB in Urinary Track	March 28	Urology
Neurosurgery Neuro-Oncology Tumor Board	April 3; May 1, 15; June 5, 19	Neurosurgery
Neurosurgery Cerebrovascular Conference	April 11; May 16	Neurosurgery
Pathology Seminars in Pathology: A Continuing Update: Update on Selected Pediatric Neoplasms	April 25	Pathology
OB/GYN Grand Rounds: Molecular Diagnosis of Cervical Dysplasia and Carcinoma	May 23	OB/GYN
OB/GYN Chairman's Rounds: Breast Cancer	June 6	OB/GYN
Preventive Medicine Lecture Series: Can We Screen for Lung Cancer? The National Lung Screening Trial	June 13	Preventive Medicine
OB/GYN 32nd Annual Residents/Fellows Research Day	June 13	OB/GYN
Surgery Resident Research Day	June 14	Surgery
Radiology Grand Rounds: Current Therapies for Hepatocellular Carcinoma	June 21	Radiology

Non-small Cell Lung Cancer Site Survey

Lung cancer constitutes 14 percent of new cancer cases in both males and females in 2012, and has claimed the lives of more people than breast, colon, prostate and ovarian cancers combined. Classified according to its histologic cell type, non-small cell lung cancer NSCLC) comprises almost 80 to 85 percent of the cases diagnosed. The Disease Management Team at the Lung Cancer Evaluation Center (LCEC) offers programs to both diagnose and treat patients with lung cancer, while providing

them with access to specialists in a coordinated, interdisciplinary setting.

Stony Brook Medicine offers state-of-the-art imaging, specialized bronchoscopic techniques for non-operative staging and diagnosis, and targeted radiation strategies. Surgery is the cornerstone for curative therapy in early stage disease, while radiation and chemotherapy, including targeted therapies, are utilized in later stages. Since most lung cancers are discovered in advanced stages, treatments of

symptoms and complications are also an important aspect in the care of the patient and their quality of life.

Cigarette smoking continues to be the most significant risk factor in lung cancer. Other types of smoking habits, including secondhand smoke, exposure to radiation and pollution also pose increased risk. Genetics plays a role, particularly in those who develop the disease at a young age. Advances in the field of lung cancer research have provided a new understanding of the

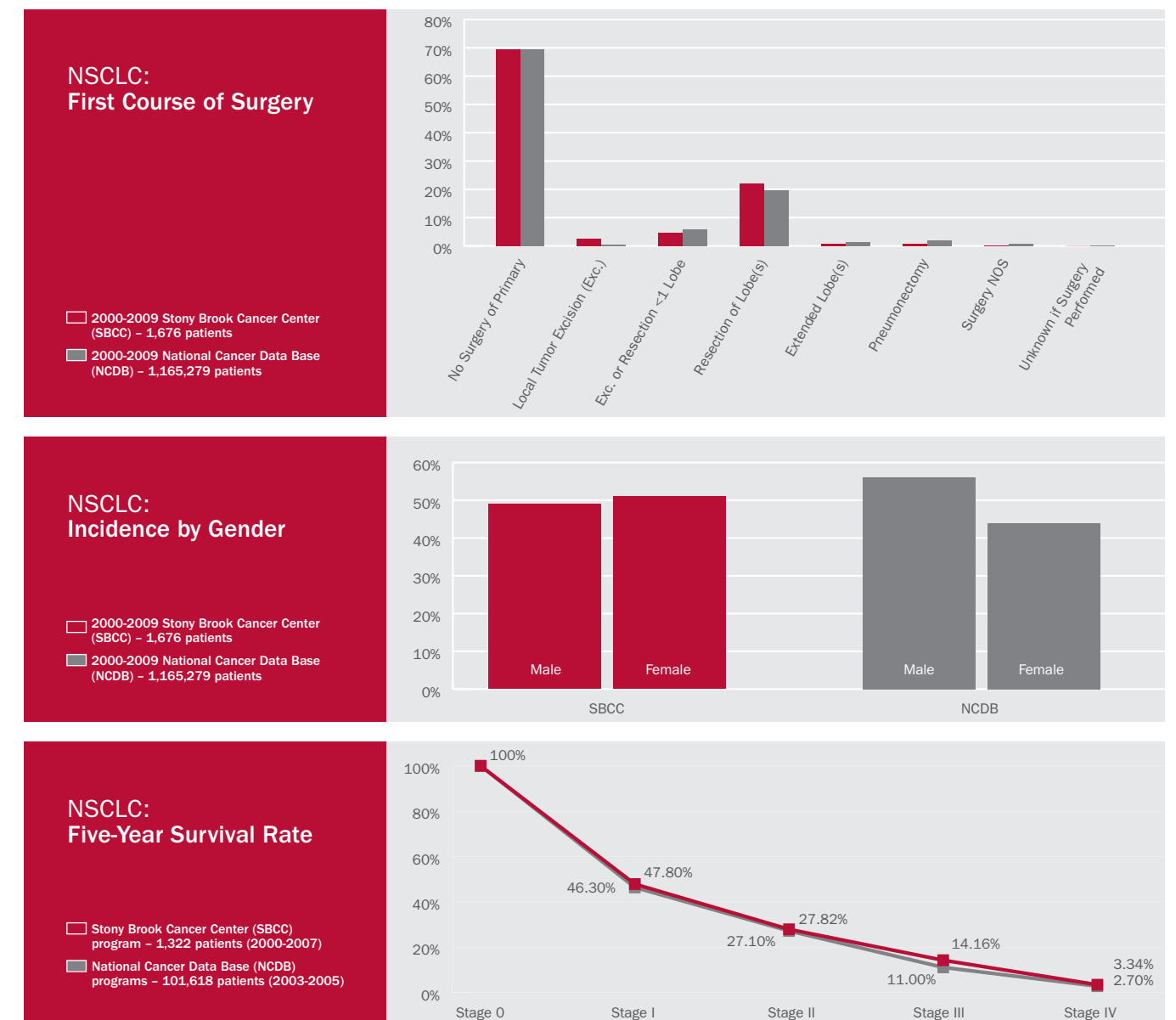
role genetics plays in lung cancer, but to date there are no markers used for routine staging or prognosis of cancer.

For the patient with non-small cell lung cancer, cohort, gender, age, stage group, treatment modalities and survival were compared to data from National Cancer Data Base facilities. Stony Brook Medicine patients are more frequently female and younger than national benchmarks; and five-year survival rates compare better than national benchmarks for all stages.

Clinical trials are available to patients but consideration of patient comorbidities is a factor in long-term survival. The Stony Brook team is dedicated to comprehensive care supporting the patient throughout their disease outcomes. The LCEC is one of 12 centers nationwide to be selected for a phase II study of ProvenCare patients in conjunction with the American College of Surgeons and Geisinger Health System.

The ProvenCare Lung Cancer Collaborative began its work in 2009

and established 37 critical elements that need to be met for each patient treated surgically for lung cancer. It begins at the time the patient first presents to the LCEC and ends five years after surgical resection of the cancer. With this philosophy in mind, better patient outcomes are expected to reverse the current unfavorable statistics facing the community and set the tone for only the highest standards of care at every level and at every point of the patient's journey.



Nodal Lymphoma Site Survey

Lymphoma is composed of two large classifications, Hodgkin's lymphoma, and non-Hodgkin's lymphoma (NHL). A malignancy of the white blood cell, they share derivation from B-cells, T-cells or NK-cells and carry out activities of the immune system. Found in large numbers in lymph nodes and other lymphoid tissue, they also have the ability to circulate and may travel to other organs of the body. Largely diagnosed when patients note swollen lymph nodes, night sweats, intermittent fever, appear fatigued or have unexplained weight loss, lymphoma can develop nodally or extra-nodally. For the purposes of this study, we are considering nodal lymphomas only.

Cancer incidence rates generally increase with age and NHL is no exception to that finding. This year, NHL will be diagnosed in roughly 70,000 people, with more than 18,000 people expected to die as a result despite the steady decrease in death rates from NHL since 1998. While risk factors such as those associated with reduced immune function, organ transplants, exposure to specific chemicals, autoimmune conditions, and family history, may be attributed to the cause, in most cases of lymphoma the cause is unknown [American Cancer Society (2012) Cancer Facts and Figures].

As is the case nationally, at Stony Brook Medicine, we find that nodal

lymphomas have the highest incidence rate over the age of 50, with male incidence surpassing female. State-of-the-art treatment modalities for these patients are available at Stony Brook Medicine, including novel chemotherapeutic agents, immunotherapy, radioimmunotherapy and stem cell transplantation. Histologically, non-Hodgkin's lymphoma encompasses many cell types, but in the graphs below, it can be clearly noted in comparison that large cell lymphoma, which comprises the largest number of lymphoma cases nationally, is also the most common one seen here. We are developing new treatments for this type of lymphoma both for initial treatment as well as for

relapsed disease. When patients relapse, we still have the ability to cure these patients with high-dose chemotherapy and stem cell transplantation.

Clinical staging is generally assigned at the onset of disease. Biopsies, including bone marrow biopsies, as well as scans such as PET/CT scans may be obtained to establish clinical stage. In comparison to the data from other academic medical centers and National Cancer Data Base facilities, nodal lymphomas are more likely to be diagnosed at an earlier stage at Stony Brook. Stage IV, a more advanced stage, is the largest singular group as expected from the usual presentation of this

type of lymphoma. These patients presenting with this advanced disease have bone marrow or organ involvement at the time of diagnosis. In the past, therefore, it was thought to be an incurable form of lymphoma. However, with advances in combined chemotherapy/ immunotherapy, radioimmunotherapy and stem cell transplantation, even this form of lymphoma may now be potentially curable.

Chemotherapy along with immunotherapy is the treatment of choice for this disease. Immunotherapy and radioimmunotherapy make use of targeted therapy using monoclonal antibodies to attack the lymphoma cells.

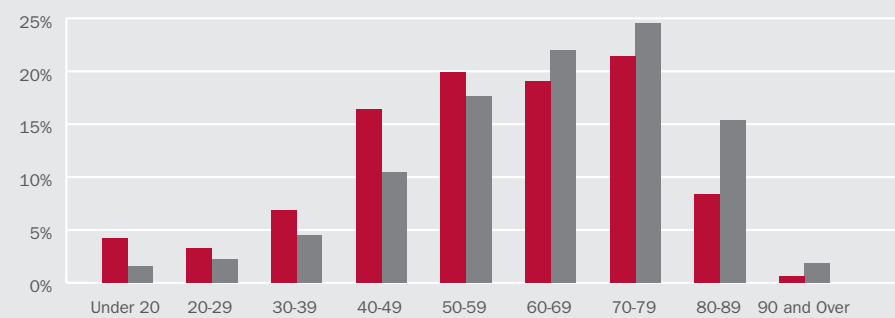
Stem cell transplantation is available to those who find themselves with recurrent or persistent disease.

Overall, five-year survival appears comparable with national data; however, variation in histologic cell type survival may vary widely, and cannot be accounted for due to sample size.

Information regarding clinical trials is available to patients, and participation is optional. Encouraging news in ongoing clinical trials can provide valuable information and new treatment regimens, and may provide physicians with a new standard of care and patients with a longer disease progression survival. Participation is offered to all appropriate patients.

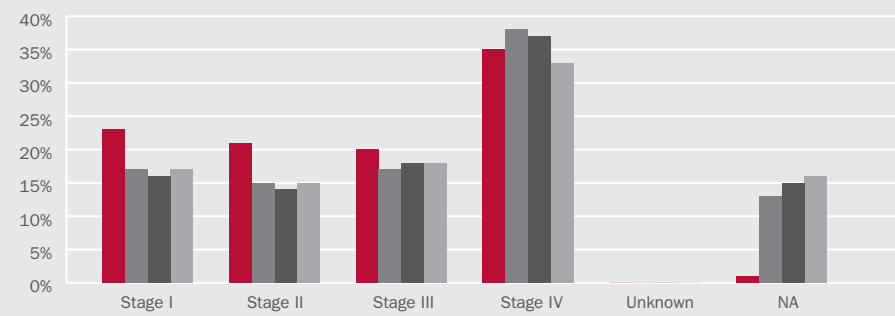
Nodal Lymphoma: Age at Diagnosis

2000-2009 SBCC - 336 patients
2000-2009 NCDB - 281,076 patients



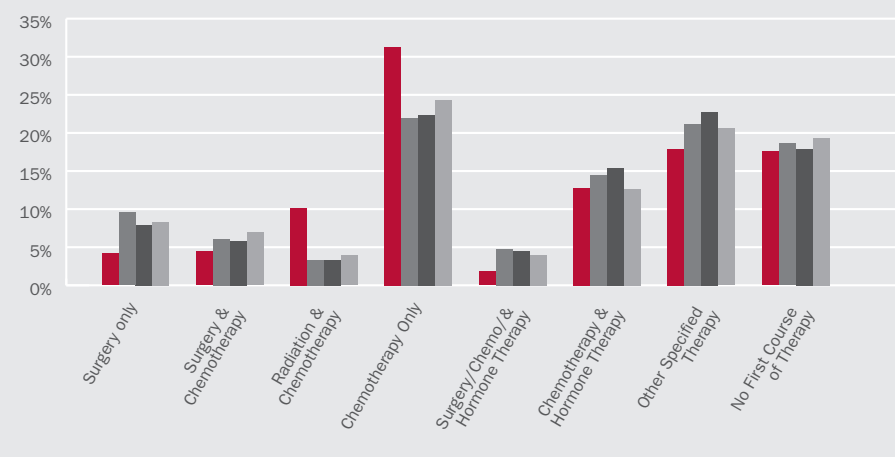
Nodal Lymphoma: Stage at Diagnosis

Stony Brook Cancer Center (SBCC) Data Compared to:
32 American Cancer Society (ACS) Eastern Division Teaching Hospitals
241 All States Teaching Hospitals
1406 Commission on Cancer (COC) Facilities



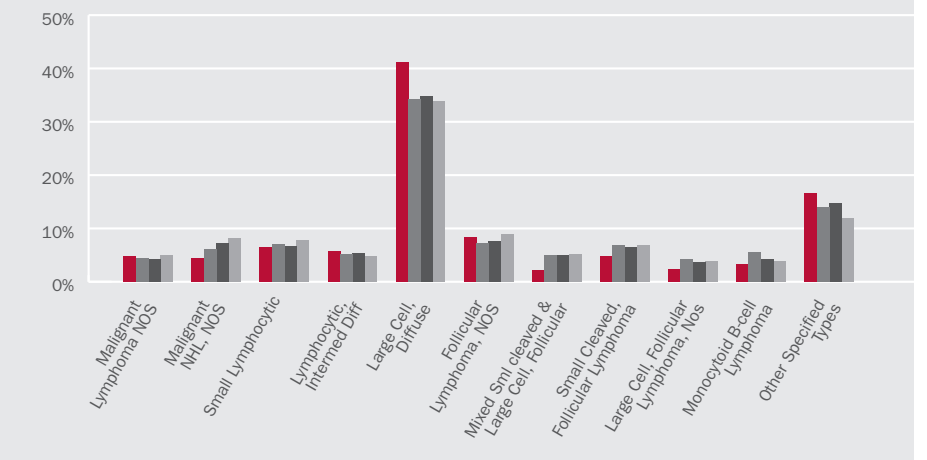
Nodal Lymphoma: First Course of Therapy

Stony Brook Cancer Center (SBCC) Data Compared to:
32 American Cancer Society (ACS) Eastern Division Teaching Hospitals
241 All States Teaching Hospitals
1406 Commission on Cancer (COC) Facilities



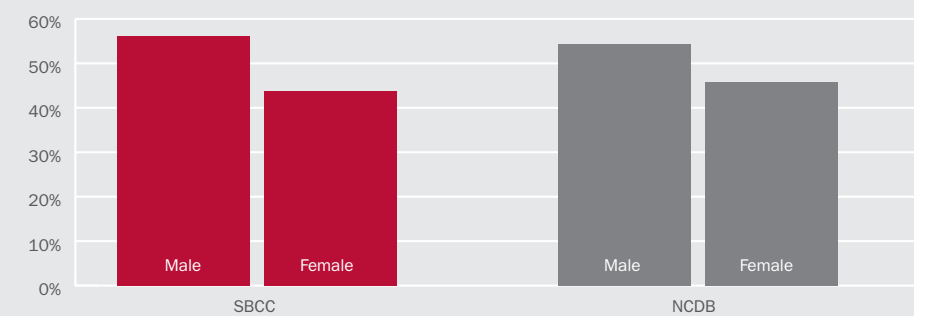
Nodal Lymphoma: Histology Comparison

Stony Brook Cancer Center (SBCC) Data Compared to:
32 American Cancer Society (ACS) Eastern Division Teaching Hospitals
241 All States Teaching Hospitals
1406 Commission on Cancer (COC) Facilities



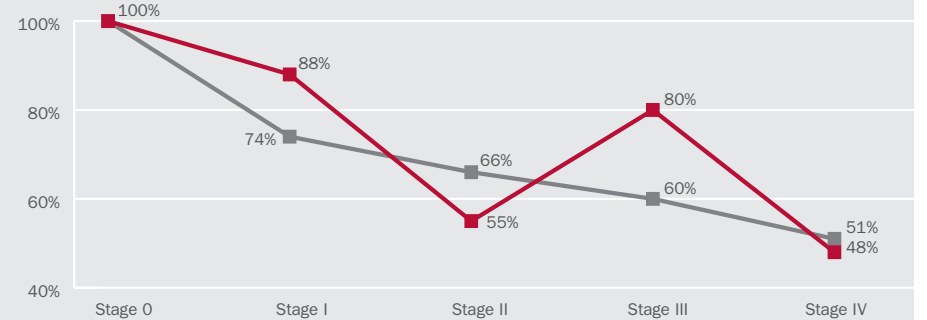
Nodal Lymphoma: Incidence by Gender

2000-2009 SBCC - 336 patients
2000-2009 NCDB - 281,076 patients



Nodal Lymphoma: Five-Year Survival Rate

Comparison of the 2007 Stony Brook Cancer Center Data to:
2003-2004 data from the National Cancer Data Base (NCDB) Programs



Best Ideas In Medicine: Inspiring Philanthropy



Benjamin S. Hsiao, MD, Vice President for Research and Chief Research Officer; Rose Cardin, RN, MSN, Associate Director of Nursing: Psychiatry and Oncology, and Administrator, Cancer Services; Kenneth Kaushansky, MD; Lauren Kaushansky, Ted Kennedy Jr., Lina Obeid, MD; Dean for Research; Yusuf A. Hannun, MD; Gloria Snyder and Mark Snyder

Cancer Survivors Day — An Inspiring Tradition

Stony Brook Medicine's eighth annual Cancer Survivors Day was held on June 10 and featured a keynote address by Ted Kennedy Jr., civil rights activist, disability and healthcare policy expert, and a cancer survivor. Mr. Kennedy shared his inspiring story of hope, perseverance and meaning after losing one of his legs to bone cancer at the age of 12. The crowd connected with Mr. Kennedy, who told fellow survivors to turn their disease into a "transforming experience" in their lives. His appearance was made possible by a generous contribution from Gloria and Mark Snyder.

The celebration was kicked off by a

pre-event reception, at the home of Senior Vice President, Health Sciences, and Dean, Stony Brook University School of Medicine Kenneth Kaushansky, MD, and his wife Lauren Kaushansky. Ted Kennedy Jr. attended the evening event and gave an uplifting talk to the guests. This was also an opportunity to welcome Yusuf A. Hannun, MD, as the new Director of Stony Brook University Cancer Center and Vice Dean of Cancer Medicine. Plans for the expansion and development of the cancer program at Stony Brook Medicine and the significant need for private funding were discussed with guests and supporters.

A Sunday morning breakfast honoring participants in Stony Brook's clinical trials was also made possible through the generous contributions of several donors. Participants and their families were treated to a performance capturing the emotional and physical journey of cancer treatment. This was the perfect complement to the update on clinical trials given by Dr. Hannun.

Joining the Snyders in supporting this event were Stony Brook University Hospital, Stony Brook University School of Medicine, Realty Connect/Team Ardolino, Leah Dunaief and Times Beacon Record Newspapers.

Mission

The mission of Stony Brook University Cancer Center is to reduce the suffering from cancer by providing world-class multidisciplinary care close to home, conducting innovative research, educating patients and healthcare professionals, and partnering with our community to reach the underserved populations.

Cancer Center Phone Numbers

Phone numbers are in the 631 area code unless otherwise stated.

Cancer Center	638-1000	HealthConnect	444-4000	Physical and LymphedemaTherapy	444-4240
Cancer Helpline	(800) 862-2215	Hematology/Oncology	638-1000	Preventive Medicine	444-2190
Cancer Registry	444-9844	Leukemia/Lymphoma/Transplant	638-1000	Radiation Oncology	444-2200
Carol M. Baldwin Breast Care Center	638-1000	Lung Cancer Evaluation Center	444-2981	Social Work Services	444-2552
Chaplaincy	444-7775	Neurosurgical Oncology	444-1210	Support Groups	444-4000
Child Life Program	444-3840	Nursing Administration	444-2780	Surgical Oncology	638-1000
Clinical Trials	638-0839	Nutrition	638-1000	Survivorship and Supportive Care	444-2052/638-2801
Colorectal Surgery	444-1825	Pain Management Services	638-0800	Upper Gastrointestinal Cancer Services	444-8052
Dermatology.....	444-4200	Pathology	444-2222	Urologic Oncology	444-1948
Diagnostic Radiology	638-2121	Patient Education Services	638-1000		
Gynecologic Oncology	638-1000	Pediatric Oncology	444-7720		
Head and Neck Oncology	444-8410				

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Cancer Facts and Figures 2012. (n.d.) Retrieved August 7, 2012, from American Cancer Society website: www.cancer.org/acs/groups/content/epidemiologysurveillance/documents/document/acspc-031941.pdf

Non-small Cell Lung Cancer Treatment (PDQ®). (n.d.) Retrieved August 15, 2012, from National Cancer Institute website: cancer.gov/cancertopics/pdq/treatment/non-small-cell-lung/healthprofessional

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