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LEADERSHIP > VISION > INNOVATION

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Cancer Care at  
Stony Brook University Hospital

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2005  
ANNUAL  
REPORT



## LEADERSHIP MESSAGE

**Bruce Schroffel**, CEO and director, Stony Brook University Hospital

**John S. Kovach, MD**, director, Long Island Cancer Center

**Theodore G. Gabig, MD**, chief, Hematology and Oncology; deputy director, Long Island Cancer Center and chair, Cancer Committee

### Everywhere at Stony Brook University Hospital there is evidence of change, growth and progress.

The hospital marked its 25th anniversary by taking stock of the past and paying homage to all that has made it strong and sound. This milestone coincides with our forging ahead with a master plan that will propel the hospital to a new level of prominence. Expansion, enhancement, rebuilding and innovation is apparent at every turn, with centers of excellence a main focus of our commitment. We look forward to the next twenty-five years as we ascend to new heights both on national and international levels, and we continue to fulfill our mission of excellence in patient care, education, research and community service.

Nowhere is our effort more apparent than in the area of cancer care and research. We eagerly await the opening of the new Ambulatory Care Pavilion in spring 2006. The 65,000 square-foot facility, designed to provide seamless delivery of a multitude of services, will house the Long Island Cancer Center, consisting of the Carol M. Baldwin Breast Care Center; outpatient medical, surgical and pediatric oncology services; state-of-the-art imaging services, pain management services and cancer support services and a cancer-based clinical trials office for the latest in research protocols. Recognizing that care extends beyond the clinical, the design in

corporates tranquil areas for patients and their families, easy access and ample parking. While modern facilities and state-of-the-art equipment are integral to providing advanced cancer care, there is no resource more important than those individuals who care for patients, research new therapies and seek cures. In our journey toward attaining National Cancer Institute designation as a comprehensive cancer center, we have recruited physicians who are highly respected experts in their fields, many of whom offer unique services and innovative techniques; specially trained oncology nurses; and committed and dedicated researchers.

As Long Island's premier academic medical center and level-one trauma center, 2.8 million residents look to Stony Brook to deliver the most up-to-date therapies. The recently expanded Bone Marrow Transplant Unit allows for both autologous and allogeneic transplants, while a newly equipped radiation oncology unit provides experts with the ability to perform both stereotactic radiosurgery and radiotherapy to treat a variety of tumors; and, with the new 3-Tesla magnetic resonance imaging unit, physicians can work with the most powerful and highly advanced imaging tool available.

Research efforts continue in earnest as the hospital and the Long Island Cancer Center participate in prominent national studies, community-based projects and laboratory research. The integration of the activities of clinical and basic scientists continue to strengthen, allowing for a more rapid movement of discoveries from



The leadership team in front of the Ambulatory Care Pavilion, under construction.

bench to bedside and, ultimately, new or improved methods of patient care.

The feature stories in this report share the experiences and challenges faced by patients and healthcare professionals alike, and give us pause to reflect on the human side of cancer. We invite you to read about a surgeon who not only uses an innovative surgical technique but also teaches it to others. You will learn what is being done to monitor the health and well being of our neighbors and friends, those first responders who put their lives on the line during and following the events of September 11. And, you will meet a remarkable physician/scientist who has taken a common drug and developed it into something "super," showing great promise in treating a form of cancer that is on the rise. We are on a path that is taking us to an ever-higher level of investigation, discovery and progress, where innovation is the order of the day—and where hope for the future is grounded in the smart medicine and expert care found at Stony Brook University Hospital.

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Our mission is to provide excellence in patient care, education, research and community service.

**Program leaders** are Theodore Gabig, MD, division chief; Stefan Madajewicz, MD, PhD, leader, Gastrointestinal and Neuro-Oncological Malignancies; Noshir DaCosta, MD, leader, Breast Cancer Management; Kenneth Zamkoff, MD, director, Blood and Marrow Stem-Cell Transplant Program; Douglas Gladstone, MD, associate director, Blood and Marrow Stem-Cell Transplant Program and director, Autoimmune Disease and High-Dose Chemotherapy; Janice Lu, MD, PhD; Wen-Tien Chen, PhD, director, Metastases Research Laboratory; Nabil Hagag, PhD, scientific director, Blood and Marrow Stem-Cell Transplant Program; Patricia Hentschel, NP, MS, director, Cancer Clinical Trials Office; Dorothy Boll, RN, Hematology/Oncology Outpatient Services Unit; Jeannie Gaspard, RN, nurse manager, Medical Oncology and Blood and Marrow Stem-Cell Transplant Program; Emily Locher, RN, OCN, coordinator, Leukemia/Lymphoma Bone Marrow Transplant Service; Michelle Stevens, MS, NP, AOCNS, coordinator of the Leukemia/Lymphoma Marrow Transplant Service and Joanne Maynard, ANP, Outpatient Services Unit.

**T**he Division of Hematology and Oncology offers a comprehensive program in cancer treatment and research. The new division is the result of the consolidation, effected by its newly recruited chief, Theodore Gabig, MD, to help build the collaborative clinical and research efforts of physicians within the previously named Divisions of Neoplastic Diseases and Hematology. In addition to physicians and researchers who are experts in their fields, the division includes nurse practitioners, chemotherapy-certified oncology nurses, and research nurses.

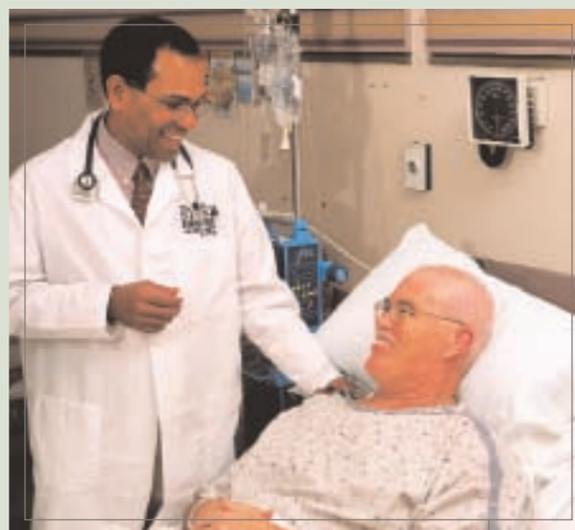
The Blood and Marrow Stem-Cell Transplant Program was expanded with the opening of the Bone Marrow Transplant Unit in 2004. Specialized services include autologous and allogeneic bone marrow transplantation for leukemia, lymphoma and multiple myeloma and high-dose chemotherapy for autoimmune diseases. The unit houses seven private, specially designed rooms with state-of-the-art equipment and infection control systems.

The Inpatient Oncology Unit maintains 26 regular and four high-dose chemotherapy/transplantation beds. The Outpatient Cancer Clinic provides expert oncology nursing and chemotherapy for about 10,000 patient visits annually. A new Outpatient Oncology Center with expanded capacity for multidisciplinary patient care will open in May 2006. Current clinical trials include treatment for prostate, breast and colon carcinomas, glioblastoma multiforma and aggressive malignant astrocytomas.

Research in the division includes the development of a system for detection of new cancer markers and for isolating cancer cells circulating in the blood. Aberrant signal transduction through receptor tyrosine kinases is a pivotal event driving

neoplastic growth in many tumor types. For this reason, a number of inhibitors of various intercellular signal transduction pathways are under clinical therapeutic evaluation. The division participates in several of these early (phase I) and more advanced (phases II and III) trials with the Eastern Cooperative Oncology Group (ECOG) and the National Surgical Adjuvant Breast and Bowel Project (NSABP) as well as through agreement with some pharmaceutical companies.

Several investigator-initiated clinical trials are being evaluated for the treatment of prostate, breast and colon carcinomas and highly malignant astrocytomas, utilizing novel combinations of inhibitors with chemotherapy. In collaboration with the Department of Neurosurgery, Stony Brook is one of very few centers in the world practicing blood/brain barrier disruption, the goal of which is to enhance delivery of chemotherapy to a brain tumor while maintaining cognitive function.



Dr. DaCosta visits  
with a patient

## Lung Cancer Evaluation Center



**T**he Lung Cancer Evaluation Center (LCEC) provides comprehensive programs to diagnose and treat patients with lung cancer.

People with x-ray abnormalities that may represent lung cancer and people with a known diagnosis of lung cancer can undergo evaluation by a multidisciplinary group of specialists that include pulmonologists, a thoracic surgeon, medical oncologists and radiation oncologists. Pathologists, radiologists and a nurse coordinator provide expert additional support.

Specialists work as a team in all aspects of diagnosis and treatment to develop an individualized management plan based on the newest developments in lung cancer screening, noninvasive diagnosis and staging, neoadjuvant treatment strategies, diagnostic and therapeutic bronchoscopy and resectional therapy.

Lung cancer is the fastest growing cancer in the US with over 170,000 new lung cancers diagnosed yearly. Although the prospects for cure of later stage lung cancer remain slim, dramatic progress is being made in early detection, risk assessment by markers, noninvasive staging and combined modality therapeutic approaches. These advances provide the opportunity to more accurately stage patients prior to operative intervention. As a result, treatments such as neoadjuvant chemotherapy prior to resection, which offer significant promise, can be offered. Advanced technologies such

as radiofrequency ablation are also offered and in the near future, computer-guided stereotactic radiosurgery will be available.

Stony Brook's growing focus on cancer care has resulted in the acquisition of a positron-emission tomography (PET)-CT fusion imaging scanner, the latest in technology for noninvasive diagnosis and staging, as well as state-of-the-art equipment in diagnostic radiology, interventional bronchoscopy and radiation oncology. These technologic advances support an active program in thoracic surgery, which remains the focus of treatment of lung cancer with curative intent. Procedures performed include pneumonectomy, lobectomy, VATS lobectomy, wedge resection, thoracoscopy and mediastinoscopy. The mortality associated with procedures done at the hospital has been consistently lower than the reported national average of between three and five percent. State-of-the-art techniques in bronchoscopy, including transbronchial needle aspiration with onsite pathology, cautery, laser, brachytherapy, and stenting for nonsurgical diagnosis and staging, as well as palliation are also available.

Patients treated at Stony Brook can participate in ongoing protocols in every phase of diagnosis and treatment, including national studies through the Eastern Cooperative Oncology Group and the American College of Surgeons Oncology Group.

Dr. Bilfinger and  
Eileen Zaoutis, RN  
in the OR

**Program leaders** are Thomas V. Bilfinger, MD, director of the Lung Cancer Evaluation Center and interim chief, Division of Cardiothoracic Surgery; Daniel Baram, MD, pulmonologist; Theodore Gabig, MD, medical oncologist; Alan Meek MD, radiation oncologist and Eileen Zaoutis, RN, nurse coordinator.

## Pediatric Oncology

**Program leaders** are Robert I. Parker, MD, director; Yasar Celiker, MD; Edward Chan, MD; Devina Prakash, MBBS, MD; Marian Evinger, PhD; Margaret Bayard, RN, CCRC; Debra Giugliano, MS, CPNP; Jeannie Greenfield, MS, CPNP; Patricia Losquadro, RN; Rosemary A. Mahan, MS, CPNP and Theresa Manning-Carter, MS, CPNP.

The Division of Pediatric Hematology/Oncology continues to be an integral part of cancer care offered at Stony Brook University Hospital. Annually, approximately 35 children with childhood tumors are diagnosed and treated at Stony Brook University Hospital, representing approximately 50 percent of the children diagnosed in Suffolk County over this time period. As a member of the Children's Oncology Group patients are provided access to cancer clinical trials sponsored by the National Cancer Institute. These patients are enrolled in clinical trials investigating therapy, causes and biologic characteristics of childhood cancer.

This has been a year of growth and change for the division. Clinical volume has remained high with patients with childhood cancers accounting for approximately 4,000 of the 6,100 total patient encounters provided by the Pediatric Hematology/Oncology Division this past year—1,800 as inpatients and 2,200 ambulatory. The Pediatric Hematology/Oncology inpatient unit once again received the highest patient satisfaction rating of any nursing unit in the hospital validating the dedication and hard work of the staff. Treatment planning and administration is multidisciplinary involving radiation oncologists, pediatric surgeons and surgical sub-specialists.

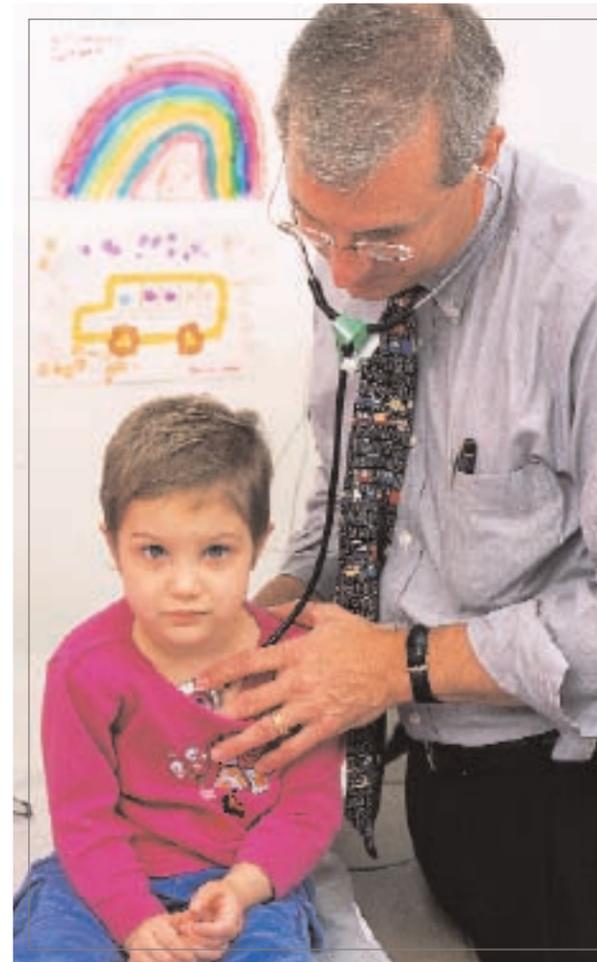
The division's laboratory research efforts have expanded with the recruitment of Dr. Edward Chan whose research focus is on defining and understanding the abnormal biochemical pathways in neuroblastoma and similar childhood cancers. The molecular genetics of childhood brain tumors continues to be investigated by Dr. Marian Evinger and her team, and new insights into the causes of abnormal bone mineralization in chil-

dren with leukemia or lymphoma have been reported by Dr. Parker and colleagues. In addition to these activities, Dr. Yasar Celiker has recently joined the faculty bringing his expertise in brain tumors and clinical research to Stony Brook.

Since inception of the Pediatric Oncology Program in July 1991, approximately 400 children, adolescents and young adults with malignant tumors have been cared for. The distribution of cases is representative of cases seen across the country. Follow-up data for patients continues to demonstrate a raw survival rate of over 75 percent and disease-specific survival rates at or above published national rates. High-dose myeloablative chemotherapy with hematopoietic stem-cell support continues to be utilized for high-risk patients, with success. For referral of those few children who require allogeneic bone marrow transplantation, relationships with regional and national bone marrow transplant centers have been forged.

Patient and family "non-medical" needs are met through involvement of child life specialists, clinical psychologists, social workers, nutritionists and spiritual support personnel. The Parent Support Group, "Our Little Heroes," and specialized sibling and bereavement programs are offered through the Pediatric Oncology Program. Since these support services are not available elsewhere on Long Island, they are open to all Suffolk County families including those receiving their treatment at other institutions.

The division's School Re-entry Program continues to grow and to receive both regional and national recognition. This individualized program educates school personnel and students about the nature of their classmate's cancer and therapy and



Dr. Parker examining a young patient

has been met with enormous enthusiasm in school districts across Long Island. Annually, the program staff has contact with virtually all of the school districts in Suffolk County and makes 20 to 25 in-school presentations each year. This service is offered to all school districts on Long Island free of charge. Expanding community support for the Pediatric Oncology Program is visible in the form of increasing contributions to and involvement in the Sunrise Fund, a philanthropic fund established to provide financial support for the program ([www.sunrisefund.org](http://www.sunrisefund.org))

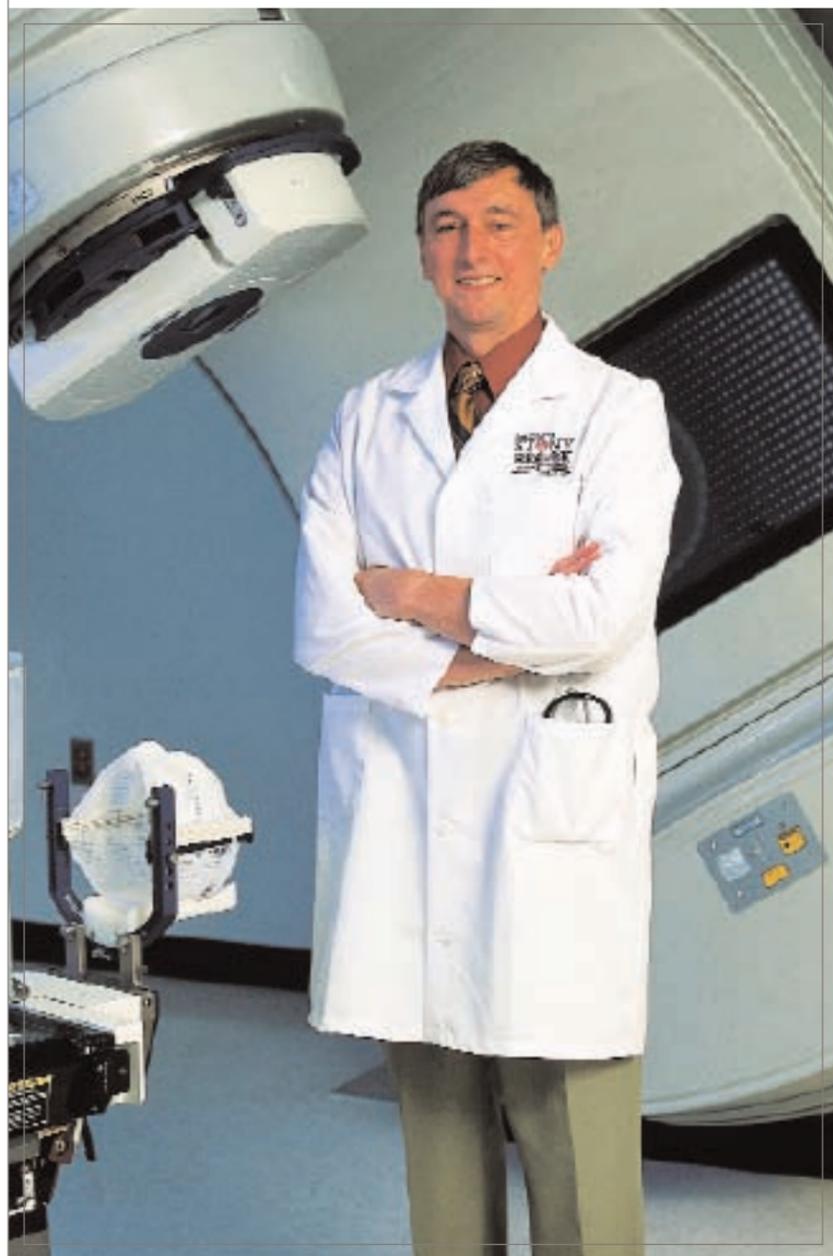
## Child Life Program

The Child Life Program addresses the emotional and developmental needs of patients cared for in the Pediatric Hematology/Oncology Division in both the ambulatory and the inpatient units. There are four supervised playrooms filled with a variety of games, toys, and arts and crafts. The program embraces the theory that play is a fundamental element of a child's growth and development. It provides play as an opportunity for the child to engage in everyday childhood activity and to help reduce anxiety. Through the use of guided imagery, relaxation and distraction techniques, child life specialists work closely with the patient, family and medical team to facilitate coping skills and help support the patient during invasive procedures or procedures that may be painful. Preoperative teaching and medical play are offered for many procedures and treatments to help prepare the child and family for the experience and to foster a general understanding of the illness. Finally, the Child Life Program collaborates with the medical team and local schools to help set up tutoring, if needed, and to provide a comprehensive school re-entry program tailored to the class and situation. The child life specialist and pediatric nurse practitioners educate students and staff at the child's school to facilitate understanding, sensitivity and acceptance of the child and the illness, thus easing the transition back to school.

**Program leaders** are Samantha Guijarro, BA, CCLS; Bradley Jerson, CLS and Paulette Walter, MEd, CCLS.



## Radiation Oncology



**T**he mission of the Department of Radiation Oncology at Stony Brook University Hospital is to use state-of-the-art methods to treat patients in a respectful, compassionate and effective manner; to educate healthcare professionals in the practice of radiation oncology; to pursue knowledge about the practice and science of radiation oncology and to develop innovative approaches in its application; and to serve as a regional resource for education about radiation oncology and the diseases it treats. In accomplishing this four-part mission, the department supports Stony Brook University Hospital's strategic objective to become the regional designated institution for cancer care services in Suffolk County.

Staff of Stony Brook University Hospital, Stony Brook University's School of Medicine, The Research Foundation of New York and Stony Brook Radiation Oncology P.C. work as a team to pursue the department's mission. This team includes six physicians, four PhD physicists, four medical dosimetrists, fifteen radiation therapists, ten nurses and nursing assistants, six administrators and sixteen clerical/secretarial staff. Staff provides services at two sites, Stony Brook University Hospital and Brookhaven National Laboratory, during normal daily working hours, as well as an on-call basis at the hospital during evenings and weekends.

Clinical services provided include evaluation and management services for patients with cancer and related radiotherapy and supportive procedures. Radiotherapy procedures available include external-beam radiotherapy from single- and dual-energy linear accelerators and low- and high-dose rate brachytherapy. The external beam radiotherapy can be delivered via either conventional or intensity modulated beams. Total body radiotherapy is

available to support the bone marrow transplant program. Stereotactic radiosurgery and stereotactic radiotherapy are provided on a recently installed linear accelerator with a special Brainlab micromulti-leaf collimator. Brachytherapy is delivered either interstitially, intracavitarily, orally, intravenously or surface. Radioimmunoglobulin administration is coordinated with medical oncology and nuclear medicine. Radiation-dose planning options include two-dimensional, three-dimensional conformal or intensity modulated, depending on the patient's need. A CAT scanner unit dedicated for radiotherapy planning has just been installed in the department facilitating the sophisticated treatment-planning program. Amifostine radioprotection is available and is administered by nursing staff. Nutritional and social work support are also available. The department recognizes that, as stated in the strategic plan for cancer services at Stony Brook University Hospital, "The therapeutic clinical program is of utmost importance to the success of the cancer program, because it provides the primary attraction of patients to the program." To this end, the department intends to continue to operate the Radiation Oncology Program at the highest level of technological ability and patient satisfaction.

From July 2004 to June of 2005, there were 928 new consults at Stony Brook and Brookhaven National Laboratory. The five leading diagnoses were breast cancer, prostate cancer, lung cancer, thyroid cancer and gynecologic malignancies. Fifty-four percent of the referrals were from community-based physicians and 46 percent were from Stony Brook full-time faculty. A total of 20,256 external-beam radiotherapy treatments were provided, 98 low-dose and high-dose rate brachytherapy procedures were performed, 87

radioiodine ablations for thyroid cancer were performed, 31 prostate implants were performed and 24 radiosurgery procedures were completed.

The department's educational mission is focused primarily on the training of radiation therapists and medical dosimetrists in coordination with the School of Health Technology and Management. This popular program graduated eleven therapists and six dosimetrists this past academic year, and its graduates are very successful in finding desirable positions. The department is developing a residency in medical physics in collaboration with the Department of Radiology and is considering a residency program in Radiation Oncology. Faculty in the department participates regularly in the several multidisciplinary tumor boards at the hospital.

The research mission of the Department of Radiation Oncology is clinically focused, including the development of software and hardware to advance radiation treatment techniques, participation in clinical trials through several cooperative groups, and the development of investigator-initiated pilot trials of new techniques or applications. The department's clinical research mission is expected to expand in the coming year with an enhanced focus on clinical trials supports and the facilitation of translational research.

The Department of Radiation Oncology is committed to helping lead the effort to make Stony Brook the designated institute for cancer care services in Suffolk County by continuing to demonstrate operational efficiency and competency, enhance interdisciplinary communication, be therapeutically innovative and broaden our education and clinical research programs.

**Program leaders** are Allen G. Meek, MD, chair and clinical director, Radiation Oncology; Wyman A. Bethune, MD, Radiosurgery Program; Bong S. Kim, MD, clinical director, Brookhaven National Laboratory Radiation Therapy Facility; Tae L. Park, MD, Prostate Brachytherapy Program; Lawrence E. Reinstein, PhD, director, Division of Medical Physics; Kevin Seely, RTT, director of Medical Radiography; Marybeth Tusso, RN, nurse clinician; Edward S. Valentine, MD, Southside Outreach Program; Xiao-Hong Wang, PhD, associate director, Clinical Medical Physics; Tamara E. Weiss, MD, Pediatric Program and High-Dose Rate Brachytherapy Program and Maureen Zagami, MPA, administrative director.

Dr. Meek and the newly installed linear accelerator for stereotactic radiosurgery and stereotactic radiotherapy



**David Rivadeneira, MD, with Rachel Catan and Irwin Lukas**



## ADVANCED LAPAROSCOPIC TECHNIQUES HELP PATIENTS REGAIN HEALTH

**Three people from different backgrounds, at very different stages in their lives and, seemingly, with very little in common—little, that is, other than a life-threatening disease and a surgeon whose skills with a laparoscope helped each of them to regain their health and reclaim their lives.**

Eighty-one-year-old Irwin Lukas was hospitalized at Stony Brook University Hospital last spring after falling at home and breaking his hip, an unfortunate event that just may have saved his life. During his hospital stay it was discovered

that Mr. Lukas had previously suffered a heart attack. A catheterization confirmed that the attack was minor and that surgery was not necessary at the time. However another test determined that Mr. Lukas had colon cancer, something that would require surgery.

It was then that Mr. Lukas was introduced to David Rivadeneira, MD. A board-certified colorectal surgeon, Dr. Rivadeneira recalls that he was initially drawn to the field because, as he puts it, “most patients do well and the prognosis is usually good.” Faced with the prospect of two surgeries, one to repair the hip and another to remove the cancer, Mr. Lukas is extremely grateful for healthcare professionals who truly performed as a team. “I was impressed by the way the doctors spoke with each other, so that everyone knew what was going on, and that as the patient, I was a part of every decision,” he says. The decision was made to repair Mr. Lukas’ hip prior to scheduling him for the colon surgery, which would be performed by Dr. Rivadeneira.

During the course of his fellowship at the Lahey Clinic in Burlington, Massachusetts, and surgical training at New York Hospital-Cornell Medical Center and Memorial Sloan-Kettering Cancer Center, Dr. Rivadeneira received specialized training to perform colorectal surgery laparoscopically. While laparoscopic surgery had become almost commonplace for such things as gall bladder, appendix, a variety of gynecologic conditions and orthopedic repairs, laparoscopic surgery for colorectal conditions, including malignancies, is fairly new and technically demanding.

Traditional surgery usually involves making an incision large enough to expose the area, allowing surgeons ample access to work. Using the laparoscopic technique, the surgeon instead makes, on average,

three to five small incisions, one-half to one-inch long, called “ports.” In laparoscopic colon surgery, at the very beginning of the procedure, carbon dioxide gas is inflated into the abdominal cavity to help create more space. A laparoscope, which is a device attached to a camera that sends images to a video monitor, is inserted into one of the ports. The other ports accommodate instruments used in the course of the procedure. As Dr. Rivadeneira explains, “What makes the laparoscopic technique for colon surgery particularly challenging lies in the fact that unlike operating on an appendix or gall bladder, where the area is relatively confined and small, the average colon is eight-feet long, lies within the entire abdomen, and rather than being situated or localized within one area, spans multiple quadrants. As an area of surgery, it is measured not in inches, but in feet.”

Dr. Rivadeneira is quick to point out that laparoscopic surgery is not really minimally invasive, as is often touted, but rather is a “minimal-access” surgery. “It is important to emphasize that this is not minimal surgery,” says Dr. Rivadeneira. “Patients receive the exact same cancer operation they would get with open surgery.” Compared to open surgery, incisions are much smaller, recovery is much quicker, and patients experience much less pain. Where traditional surgery usually requires a hospital stay averaging five to eight days and recovery at home lasting six weeks or more, patients having laparoscopic surgery can expect a hospital stay of two to four days and can return to work as early as two to three weeks. A

## ADVANCED LAPAROSCOPIC TECHNIQUES HELP PATIENTS REGAIN HEALTH

landmark multi-institutional study published in the May 2004 issue of *The New England Journal of Medicine* suggested that the laparoscopic approach is an acceptable alternative to open surgery for colon cancer and demonstrated that patients had less pain, a decrease in narcotics use and were able to return to daily routines more quickly.

Mr. Lukas was well aware that laparoscopic procedures are “the wave of the future” and had no hesitation about having his surgery performed in this way. Upon awakening in the recovery room, he recalls being shocked by how small the incisions actually were, especially since he had approximately one foot of his colon removed and two sections joined together. After weathering some health issues unrelated to the colon surgery, Mr. Lukas says he is functioning “at almost 100 percent,” and is home with his wife, continuing to enjoy retired life.

Unlike Irwin Lukas, Sandra Lanning’s bout with colon cancer came as no surprise—despite the fact that she was diagnosed at age 28. Familial polyposis syndrome, a condition where literally thousands of polyps grow inside the colon and, if left untreated, practically guarantees that those with the hereditary disease will develop colon cancer before reaching the age of 40, led her to undergo genetic testing. After determining that she carried the gene, a colonoscopy and biopsies revealed that surgery was necessary and should be done as quickly as possible. Sandra’s sister-in-law, Kim Lykтей, an oncology research nurse working at Stony Brook, told Sandra about “a great doctor” skilled in laparoscopic colon surgery. After an initial meeting, Sandra was immediately struck by Dr. Rivadeneira’s bedside manner.

“He put me at ease and made me feel comfortable during a pretty stressful time,” she says. She was particularly attracted to the benefits of laparoscopic surgery—less pain, less hospital and recovery time, and equally important to this young woman, less scarring.

Sandra’s condition required the removal of her entire colon, followed by chemotherapy and additional surgeries. She has nothing but good things to say about Stony Brook University Hospital, the laparoscopic procedure, and her surgeon. “Everyone helped to take good care of me. Dr. Rivadeneira has got it all. He is a great surgeon with advanced skills, who knows how to treat his patients, both in a medical sense and on a personal level.” It has been just two years since her journey began, but Sandra is doing well, back to work, and looking forward to the future.

A lengthy recovery and prolonged absence from work was not something Rachel Catan had time for. Two years ago, at the age of 41, the spirited and youthful mother of two teenaged children was diagnosed with cancer after a routine physical indicated a need for follow-up testing. A colonoscopy revealed that she had rectal cancer. “‘Cancer’ was the last thing I expected to hear,” she recalls. “I’m relatively young and I was feeling just fine. Besides, with a family, two dogs and a full-time job, I couldn’t imagine being laid up for any length of time.” While waiting for an appointment at a major New York cancer center to obtain a second opinion, Rachel found her way to the “new specialist” on staff at Stony Brook University Hospital. “Within hours of consulting with Dr. Rivadeneira, I cancelled my appointment at the other hospital and scheduled the laparoscopic surgery,” she says. “His friendly manner fit my style perfectly.

I had the utmost faith in him, and his training and experience were very impressive.” In November 2003, Rachel had surgery to remove the cancer. The type of surgery she had often requires a colostomy, either temporary or permanent. “I was happy and relieved that Dr. Rivadeneira was able to remove the cancer completely without performing open surgery—and in a way that made a colostomy unnecessary,” says Rachel. Soon after the surgery she watched from the sidelines as her son, then a senior in high school, played in a playoff football game. Head of Children and Parents’ Services at a large bustling public library, Rachel attended her staff’s holiday party in early December, just a month after the procedure, returned to work soon after, and began chemotherapy in January. Rachel follows up regularly with Dr. Rivadeneira, and she is encouraged by her most recent test results.

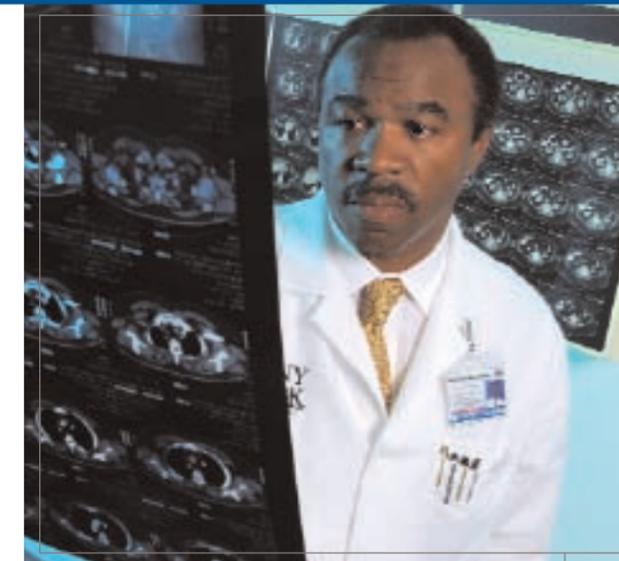
Relatively few surgeons across the country are offering laparoscopic colon surgery to their patients. That may change in the not too distant future because when he is not seeing patients or in the OR, much of Dr. Rivadeneira’s time is spent teaching this highly specialized technique to other physicians. Many physicians are traveling long distances to learn, and Dr. Rivadeneira’s classes are full. “I have trained surgeons from in and around the immediate area and from as far away as Mexico, Turkey and Singapore,” he says. “I love teaching and sharing my knowledge and am convinced that within the next ten years, if not sooner, the laparoscopic technique will be the standard for colon surgery. Being at the forefront of using this innovative technique is exciting—but the best part is knowing how much it benefits patients.”

## Surgical Oncology

The Division of Surgical Oncology provides comprehensive surgical expertise for patients with cancer. The expertise of a strong faculty is available to children and adults with cancers of the gastrointestinal (GI) tract, including upper GI malignancies (esophagus, stomach, liver, bile ducts and pancreas), carcinomas of the colon and rectum, and malignant melanoma and sarcoma. Pioneering techniques and promising research are greatly advancing care to patients with GI cancers. These include new and powerful imaging technologies that help surgeons remove disease and spare vital tissue, the availability of endo-rectal ultrasound, magnifying endoscope and laparoscopic surgical techniques. The division has recently welcomed oncology surgeons Kepal Patel, MD, Colette Pamijer, MD, and William Smithy, MD.

Patients with malignancies arising in the head and neck region receive care through the Division of Otolaryngology. Surgeons at the hospital’s Carol M. Baldwin Breast Care Center provide leading-edge surgical techniques for patients with breast cancer.

Treatment for cancer involves a multimodality approach using surgery as well as chemotherapy and radiation. The Division of Surgical Oncology works closely with Hematology/Oncology and Radiation Oncology Divisions to design and implement new protocols for the treatment of various tumors. New techniques in laparoscopy now afford less invasive surgical alternatives for some select patients with abdominal malignancies and colon and rectal cancers. Treatment for cancer now includes sentinel lymph node biopsy for



breast cancer and malignant melanoma. Since the division has a number of members who have an expertise in sentinel-node detection, active clinical work is being conducted.

Surgeons in the Division of Surgical Oncology are partners of more than fifty protocols activated by the hospital’s Institutional Review Board. Many different disease sites with experimental treatments, including breast cancer, colon cancer and melanoma, have been examined. The Surgical Oncology Division participated in the National Institutes of Health-funded research projects on consent for tumor bank tissues. Clinical research includes the American College of Surgeons Oncology Group research protocols, as well as affiliation with the Eastern Cooperative Oncology Group (ECOG) and other national cooperative groups.

Dr. Karpheh viewing a patient’s CT scan



## Breast Care Center

**Program leaders** are Brian O'Hea, MD, director, Carol M. Baldwin Breast Care Center; Alex Dagum, MD, chief, Division Plastic and Reconstructive Surgery; Paul Fisher, MD, director, Breast Imaging; Allen Meek, MD, chair, Department of Radiation Oncology; Balantry Aurora, MD; John Brebbia, MD; Martyn Burk, MD; Noshir DaCosta, MD; Duc Bui, MD; Louis Merriam, MD; Roxanne Palermo, MD; Colette Pameijer, MD; Lynette LeePack-May, NP, nursing administrator; Catherine M. Tuppo, PT, Lymphedema Program and Marcy Demsky, Genetic Counseling.

**S**tony Brook's Breast Care Program is the only comprehensive academic program of its kind on Long Island. The program champions the multidisciplinary approach and continues to grow at a rapid pace, now caring for an estimated 300 to 400 new patients with breast cancer each year. Newly diagnosed patients are presented and discussed at a weekly treatment planning conference attended by cancer specialists, offering critical multidisciplinary consultative input to this complex disease.

The Carol M. Baldwin Breast Care Center plays a pivotal role in providing key services. Breast imaging specialists perform more than 8,000 mammograms and 2,000 sonograms each year. The center, the first on Long Island to offer digital mammography, has two digital mammography machines and a specialized R-2 computerized mammogram double-checker. Breast imaging specialists are experienced in image-guided biopsy procedures, including stereotactic mammo-tome biopsies and ultrasound-guided core biopsies. The center is the only one in Suffolk County, and one of the few in the metropolitan region that offers MRI-guided biopsies.

Stony Brook's breast cancer surgeons were the first on Long Island to offer sentinel-node biopsy as a less invasive alternative to the standard axillary-node dissection for patients with breast cancer. Since then the sentinel-node program has grown dramatically. Breast surgeons can now implant the new mammosite intracavity balloon device for accelerated partial breast irradiation. This technique is used instead of traditional post-lumpectomy radiation in selected patients.

Breast surgeons are available for evaluations and consultations. Radiation therapy consultation is also offered. And, while lumpectomy is the preferred option for women with breast cancer, expertise in breast reconstruction is available when needed. Breast cancer support groups and community outreach programs are coordinated through the center.

Medical oncologists provide long-term care to patients with breast cancer after surgery. They utilize novel chemotherapeutic regimens capable of dramatically improving survival. New combinations of established drugs are being studied to establish the "standard regimens" of tomorrow. In addition, oncologists provide a valuable resource by making available phase II experimental agents under study for patients with resistant tumors.

A highly specialized genetic counselor offers consultation and support for women considering genetic testing for inheritable breast cancer. A comprehensive, highly specialized lymphedema evaluation and treatment program is offered through the Department of Physical Therapy.

In addition to clinical research projects, critical basic science research is carried out at Stony Brook University Hospital and at Cold Spring Harbor and Brookhaven National Laboratories to gain a deeper understanding of the biology of breast cancer and to develop novel breast cancer treatments. This cutting-edge basic science research and its direct link to clinical cancer care gives Stony Brook University Hospital breast cancer specialists access to the most advanced breast cancer treatment available anywhere.

## Gynecologic Oncology

**T**he gynecologic cancers arise in the ovary, uterus (endometrium), cervix, vulva and vagina, as well as in the peritoneum and fallopian tubes. Together, these cancers account for 13.3 percent of the new cancers afflicting women annually in the US. Although substantial strides have been achieved, the gynecologic cancers still account for 10 percent of cancer deaths annually in women.

The Division of Gynecologic Oncology is the only academic subspecialty gynecologic oncology practice in Suffolk County. The division members have three overlapping goals: to provide comprehensive multidisciplinary care for women with known or suspected gynecologic cancers, as well as those with complicated gynecologic surgical and selected pre-invasive conditions; to conduct research into the development and treatment of gynecologic cancers; and to educate healthcare professionals and the public about gynecologic cancers and pre-cancerous conditions.

The Division of Gynecologic Oncology provides complete care for women with gynecologic malignancies. In 2004, there were 6,485 office visits and 1,313 new patients. Because the division is directly involved with all aspects of patient care, a long-term relationship may be established. This relationship provides superb continuity of care and avoids many of the potential problems associated with fragmented care.

The physicians perform all surgical procedures necessary to treat gynecologic cancer or its complications, including radical pelvic and exenterative, gastrointestinal, urological and reconstructive plastic surgery. In 2004, the division performed 777 surgical procedures (506 major and 271 minor procedures). Patients who require surgery are given a packet of educational material to assist them with preparing for surgery. A library of books and videotapes are available for patients and their families to review.



Linda Mahler, NP, shares good news with her patient



## Urologic Oncology

**Program leaders** are Michael L. Pearl, MD, director; Ann Buhl, MD; Eva Chalas, MD; Kent Chan, MD; Dayna McCauley, PharmD; Margaret Fischer, NP; Linda Mahler, NP; Aimee Minton, CRA; and Mohini Jose, LCSW. Research collaborators are Ute Moll, MD; Wen-Tien Chen, PhD; Robert Lucito, PhD; Shinya Shibutani, PhD and Michael Wigler, PhD.

The division has extensive experience administering intravenous, oral and intraperitoneal chemotherapy. In 2004, the division administered 1,055 chemotherapy cycles. The chemotherapy team is multi-disciplinary and consists of the physicians, a clinical pharmacist, two nurse practitioners, and several chemotherapy-certified nurses. Active patient cases are presented at a weekly Treatment Planning Conference attended by the members of the chemotherapy team. The physicians work closely with the Department of Radiation Oncology to develop treatment plans, place brachytherapy devices and administer intraperitoneal radioisotopes.

Importantly, the division provides comprehensive support services, including pain and symptom management, referrals for counseling and overseeing hospice care. The support group meets monthly and is facilitated by a licensed certified social worker.

The members of the division conduct clinical and basic science research in gynecologic cancer. Dr. Pearl is the principal investigator for the Gynecologic Oncology Group (GOG), a national research organization funded by the National Institutes of Health to provide patients access to cutting-edge therapy. At any given time, approximately 25 chemotherapy trials are available for women with a variety of gynecologic cancers. In 2004, 63 patients were enrolled on GOG protocols.

Institutional research trials have been developed and conducted to improve the outcome for patients with gynecologic cancers. Ongoing trials include evaluating the role of chemotherapy following chemoradiation for women with locally-advanced cervical cancer, assessing patients'

end-of-life preferences, and several industry-sponsored phase II chemotherapy trials for patients with either ovarian or cervical cancer.

A number of collaborative projects with scientists in several departments have been established. In conjunction with the Department of Pharmacology, the division is investigating the levels of tamoxifen-DNA adducts in endometrium. In collaboration with the Department of Pathology, the division is investigating the role of p73 in gynecologic malignancies. A number of projects are underway with members of the Division of Medical Oncology. The division is collaborating with Wen-Tien Chen, PhD, Department of Medicine, to develop a method for isolating viable ovarian cancer cells from blood and ascites and to identify early carcinoma antigens in patients with ovarian cancer using DNA microarray techniques.

In conjunction with Cold Spring Harbor Laboratory, efforts are being made to identify genes that may play a role in the development and outcome of ovarian cancer using microarray-based screening technology.

Didactic and clinical education is provided for medical students, resident physicians, nurses and physician assistant students in the hospital and ambulatory settings. By participating in local, regional, national and international grand rounds and other lecture series, the members of the division provide continuing medical education for physicians in many specialties.

For the community, information about prevention, diagnosis and management of gynecologic cancers is provided through support groups and lecture series.

**S**tony Brook University Hospital's urologic surgery specialists are experienced in treating malignancies of the urinary system. The common ones include prostate cancer, bladder cancer, kidney (renal cancer), and testicular cancer. Less common cancers of the urinary tract include tumors of the renal pelvis and ureter, penile cancer and urethral tumors. These tumors affect both men and women; however, these tumors are more common in men.

The Department of Urology provides comprehensive care for all genitourinary tract cancers ranging from screening of patients who are at risk to the treatment of advanced disease. The department also provides access to clinical trials for patients with malignant tumors.

Prostate cancer is the most common tumor diagnosed in American men. While many men develop urinary symptoms as they age, prostate cancer is commonly diagnosed in patients who have no urinary symptoms whatsoever. In addition, a family history of prostate cancer is a risk factor for developing prostate cancer. Prostate cancer can be diagnosed by a digital rectal examination; however, this procedure is most effectively used in a combination with the Prostate Specific Antigen (PSA) blood test. Many patients with prostate cancer have a normal prostate examination, but an abnormal PSA. There are many treatment options available to a man with prostate cancer including surgery via open or laparoscopic techniques, radiation therapy with external beam and radiation seed implant, cryotherapy, hormone therapy and other investigational therapies. All of these options are available at Stony Brook.

In addition to this clinical expertise, the Department of Urology is collaborating with various areas of basic science prostate cancer research.

Current areas of research include evaluating the role of matrix metalloproteinases in prostate cancer metastasis, determining the process that leads to the hormone resistance of prostate cancer cells, and exploring new treatments to prevent bone metastasis from prostate cancer. Investigators in the Department of Urology in collaboration with investigators in the Department of Medicine recently published data showing that membrane type 1- matrix metalloproteinase plays an important role in prostate cancer invasion and metastasis. This research has not only expanded the current knowledge base for prostate cancer metastasis, but may eventually lead to the development of new treatments for patients with advanced disease. Investigators in the Department of Urology in collaboration with investigators in the Department of Surgery have recently published research demonstrating the utility of urine telomerase activity as a screening tool for prostate cancer. These results were encouraging as all patients with a negative biopsy had a negative urine telomerase assay. Furthermore, the presence of prostate cancer was also predicted with high sensitivity and sensitivity by a positive telomerase assay. Future studies are planned to determine the potential benefit of using the urine telomerase assay as a first-line screening test for prostate cancer.

Cancer of the urinary bladder occurs in men and women. Bladder cancer is the fourth most common malignancy diagnosed in men and the tenth most common cancer diagnosed in women. Smoking is a risk factor for developing bladder cancer. Stony Brook physicians perform a full evaluation for patients who present with symptoms, such as blood in the urine. For those patients who are diagnosed with bladder cancer, there are many treatments available including surgery and the placement of chemical agents



**Program leaders** are Wayne Waltzer, MD, chair, Urologic Oncology and Renal Transplantation; Howard L. Adler, MD, Urologic Oncology, Gene Therapy and Clinical Trials, director of the Prostate Care Program; Frank Darras, MD, Renal Transplantation; Zelik I. Frischer, MD, Incontinence and Voiding Dysfunction, Pelvic Floor Reconstruction, Urologic Oncology and Renal Transplantation; Sardar Ali Khan, MD, Erectile Dysfunction and Pelvic Surgery; Shahar Madjar, MD, Incontinence and Female Urology; Jamil U. Rehman, MD, Laparoscopy and Endourology; David A. Schulsinger, MD, Endourology, Stone Disease and Laparoscopy; Yefim R. Sheynkin, MD, Infertility and Robert J. Wasnick, MD, Pediatric Urology.

into the bladder. Patients who require removal of the urinary bladder may be candidates for creation of a new bladder from the intestine. Urologists at Stony Brook are able to perform the procedure on eligible patients. Currently, there is a joint collaborative research effort between the Departments of Urology and Biomedical Engineering evaluating the use of Optical Coherence Tomography (OCT) for the diagnosis of bladder cancer. This OCT may help diagnose and stage bladder cancers at an earlier stage when the cancer is not visible with standard cystoscopic techniques. The Department of Urology has also been working with the Department of Preventive Medicine in an evaluation of layperson knowledge of the risks and association of smoking with the occurrence of bladder cancer.

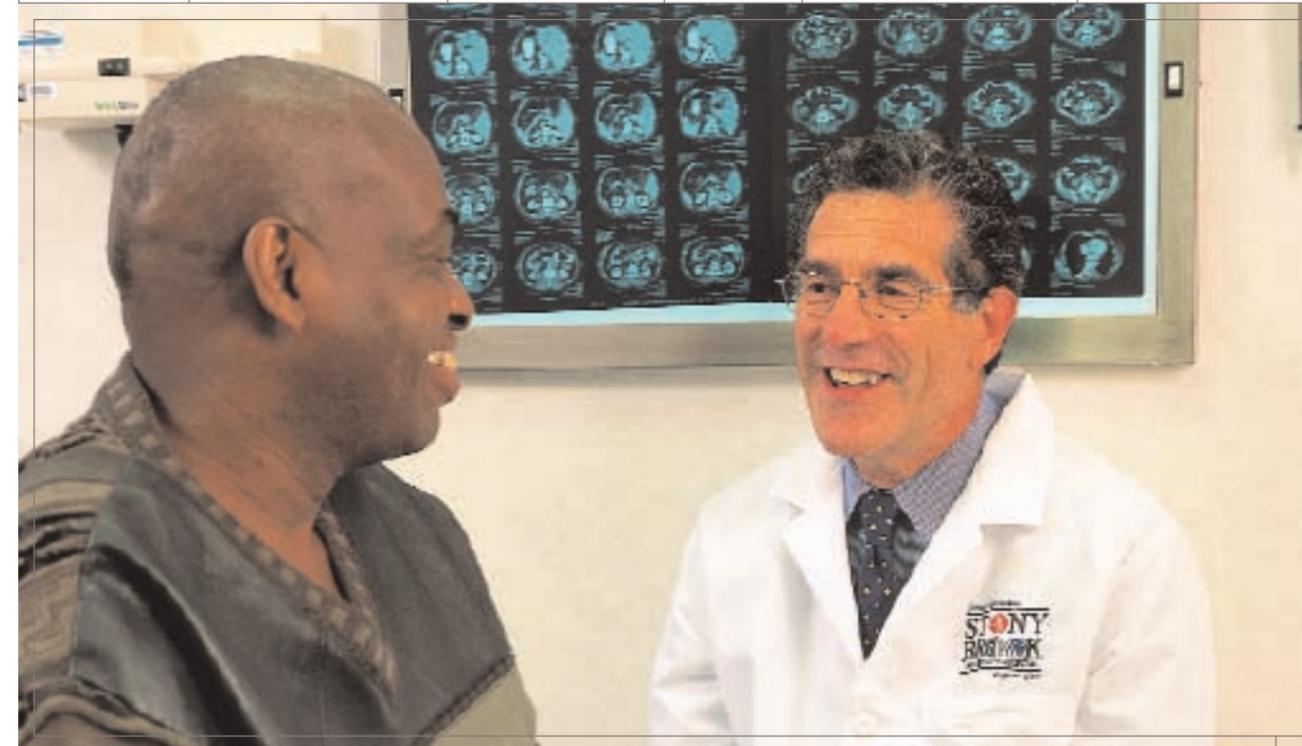
Renal, or kidney cancer, also occurs in men and women. It is often diagnosed during the early stages of the disease through routine x-rays of the abdomen for other reasons. Occasionally, patients will have the symptom of blood in the urine. Patients with localized cancer can be treated with removal of the kidney. In some cases, a portion of the affected kidney is removed and the normal kidney remains. These procedures may be done with laparoscopy in patients who are eligible. Patients with advanced disease are eligible for treatment with immunotherapy, which uses cytokines and other agents to stimulate the immune system against the tumor.

Cancer of the testicles occurs most commonly in men between 18 and 35 years of age. These tumors usually present as a painless mass in the testicle and can be diagnosed by testicular self-examination. The vast majority of patients with testicular cancer can be cured with treatment, which includes surgery, radiation, and/or chemotherapy.

Since 1989, the Prostate Care Program at Stony Brook has actively promoted and fulfilled its stated mission and commitment to conduct cancer screenings in accordance with the guidelines set forth by the American Cancer Society. Excluding skin cancer, cancer of the prostate is the most common malignancy and the second leading cause of cancer death among men in the United States. The American Cancer Society estimated that in 2002 there would be 220,900 new cases of prostate cancer and 28,900 deaths attributed to this disease in the United States. With early detection of prostate cancer, this annual death rate is decreasing and men are afforded treatment options, which are dedicated to promoting the highest quality of life possible.

From January 1, 2004 to December 31, 2004 the Prostate Care Program at Stony Brook screened 1,109 patients. Of this group, 150 patients (13.5 percent) were referred for the evaluation of an abnormality in their PSA level or digital rectal examination. Many more patients presented for the evaluation of other conditions including benign prostate enlargement, overactive bladder, and erectile dysfunction. Furthermore, the Prostate Care Program has assisted the Department of Preventive Medicine with the PSA and digital rectal examination follow-up of patients participating in the Selenium and Vitamin E Cancer Prevention Trial (SELECT).

Comprehensive prostate health and awareness education is provided for the community directly via a series of screenings and lectures scheduled in fire houses, churches, libraries, senior centers, Suffolk County Police precincts and regional clinic sites in order to establish an active partnership with the community and to meet their healthcare needs. A major component of the community out-



reach is to provide services to the underserved population of Long Island. The Prostate Care Program works with Stony Brook University Hospital's Health Initiative for Underserved Communities to provide the most direct communication to the African American community. This is critical given the prevalence of prostate cancer in African American men, which is twice the rate of Caucasian men in the United States.

Education and support are vital in the care of patients undergoing cancer therapy. Every patient who has a positive prostate biopsy is informed of this result by his physician. In addition, each man is given a packet of patient educational materials to help in his understanding of the disease, treatment options and expected outcomes. The Prostate Care Program has a library of videotapes and books, which are also available for patients and their families. More recently, a resource manual listing websites about prostate cancer has been developed. The mission of community education is accomplished by Stony Brook's participation in community health fairs, school health and awareness activities and several employee wellness programs hosted by various Long Island corpora-

tions. The director of the Prostate Care Program visits various organizations, schools, corporations, libraries and other civic organizations to discuss the importance of prostate cancer awareness and screening.

Currently, the Prostate Care Program team has initiated an extensive review of their database to determine how many patients have been diagnosed with prostate cancer, the treatment they received, and their current disease status. The results of this research will add to the growing body of medical literature regarding the benefits of prostate cancer screening.

The prostate cancer support group at Stony Brook began in 1994 and meets on a monthly basis. In 1996, another group began to meet, composed of women who play a significant role in the life of someone who has prostate cancer. At that time, the groups became affiliated with the American Cancer Society. The men's group is called Man-to-Man support group and the women's group is called Side-by-Side support group. The meetings involve educational presentations and group discussions.

Dr. Waltzer and patient during a follow-up visit



## Otolaryngology Head and Neck Oncology

**Program leaders** are Maisie Shindo, MD, director; Arnold Katz, MD, chair, Division of Otolaryngology; Prajoy Kadkade, MD; Kopal Patel, MD; Ghassan Samara, MD and Frances Tanzella, NP.

The comprehensive, multidisciplinary approach to management of head and neck cancer at Stony Brook University Hospital continues to provide patients with state-of-the-art care, resulting in an increased number of patients. The multidisciplinary team, consisting of head and neck surgeons as well as nurses, nurse practitioners in the Division of Otolaryngology Head and Neck Oncology, radiation oncologists, medical oncologists, pathologists, diagnostic neuro-radiologists, interventional neuroradiologists, speech pathologists and dentists, works to ensure that patients are provided with the best comprehensive treatment. Programs are dedicated to the comprehensive care of malignancies arising in the head and neck region. The spectrum of malignancies treated includes cancers of the aerodigestive tract, which includes oral cavity, pharynx, larynx, nasal cavity, nasopharynx and sinuses, the thyroid gland and the salivary glands.

There are two major goals in treating patients with head and neck cancer—controlling the disease and maintaining a good quality of life. Significant strides have been made in treatment modalities that have improved the quality of life for patients with head and neck cancer. Head and neck cancer is a very debilitating and emotionally distressing disease, as it can result in speech and swallowing impairment as well as facial disfigurement. Advances in radiation therapy techniques, such as modifying the dosing schedule, sophisticated computerized planning of x-ray beam delivery and direct implantation of radiation seeds known as brachytherapy, have improved overall initial control of the cancer in the head and neck region. The local and regional control rates can be improved by combining radiation with chemotherapy, especially by using newer drugs and improved delivery techniques. Thus, preservation of

structures that are important for communication, such as the voice box, is now possible in a large percentage of patients.

The current trend today is to treat early stage disease with single modality—surgery, radiation or laser, depending on the site of the primary tumor. For example, Stage I and II laryngeal cancers are effectively treated with endoscopic laser excision with excellent local control rates. The advantage of this is shorter length of stay and good functional outcome. Stage III and IV cancers of the larynx, oropharynx and hypopharynx are generally treated with chemotherapy and radiation therapy, with surgery reserved for failure. Very high complete response rates can be achieved when radiation therapy is delivered concurrently with chemotherapy; however, this method of concurrent chemo-radiation treatment can result in very disabling side effects, such as severe mucositis which can result in permanent xerostomia and dysphagia. Surgical resection is still the preferred initial treatment modality for oral cavity cancer of all stages.

While current treatment modalities have improved locoregional control rates for head and neck cancer, the overall long-term survival rate for squamous-cell cancers of the aerodigestive tract still has not improved dramatically over the last decade. Overall, approximately 50 percent of these patients will ultimately develop recurrence at the primary site, in lymph nodes or at a distant site, such as the lungs.

Members of the Division of Otolaryngology Head and Neck Oncology, in conjunction with medical oncologists and molecular biologists, are collaborating on translational research to shed further light on the behavior of head and neck cancers

and to develop improved treatment modalities, such as gene therapy and immunotherapy to improve overall survival rates. Ghassan Samara, MD and Kopal Patel, MD are currently involved in studying the behavior of tumor cells at a molecular level.

Another significant advance in the treatment of head and neck cancer is in reconstruction of surgical defects after cancer removal. A team of highly specialized surgeons with training in plastic and reconstructive surgery of the face is able to reconstruct extensive head and neck defects by transferring tissue from other parts of the body to

replace the missing tissues at the surgical defect. In this way, both function and esthetics are restored for patients. Somewhat similar to the principles of tissue transplants, this highly sophisticated surgical technique, known as microvascular-free tissue transfer, requires sewing of blood vessels and nerves to re-establish blood flow, sensation and motor function at the site of the reconstruction. By reconstructing the defects with tissues of similar composition (e.g., bone, soft tissue), speech, swallowing and masticatory function, as well as facial esthetics can be restored, thus significantly improving the patient's quality of life.

Dr. Shindo and Frances Tanzella, NP, during a patient examination





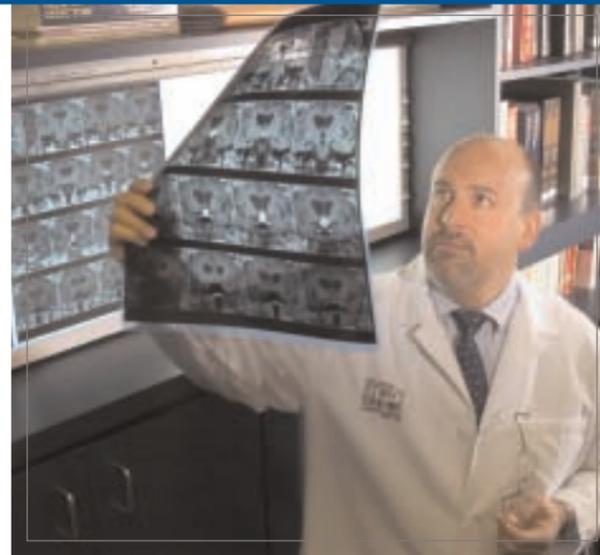
## Neurosurgical Oncology

**Program leaders** are Raphael Davis, MD, director; Michael Egnor, MD, Pediatric Neurosurgery; Robert Galler, MD; Frederick Gutman, MD and Arthur Rosiello, MD.

The Department of Neurological Surgery at Stony Brook University Hospital provides tertiary management of benign and malignant tumors of the brain and spine. Physicians offer extensive experience in treating tumors of the brain and spine, in addition to expertise in complex spine surgery and spinal tumors. The department also offers expertise in pediatric neurosurgery.

Treatment of brain and spine tumors crosses several disciplines with strong collaborations existing between the Department of Neurological Surgery and the Divisions Hematology and Oncology, Pediatric Oncology and the Department of Radiation Oncology, as well as the Departments of Pathology, Radiology, Anesthesia and Neurology. Medical experts convene on a regular basis as part of the multidisciplinary tumor board, where tumor cases are presented and discussed to formulate treatment plans.

In partnership with the Division of Hematology and Oncology and the Department of Radiation Oncology, new treatment protocols are being investigated. Stony Brook is one of the few centers across the country and the only center in the New York metropolitan area that offers intra-carotid cisplatin and etoposide for the treatment of high-grade glioma of the brain. Delivering this regional chemotherapy regimen prior to radiation therapy has doubled the median survival of patients with glioblastoma compared to conventional radiation and intravenous BCNU (carmustine). The Department of Neurological Surgery also offers regional chemotherapy for recurrent glioma in the form of carmustine-impregnated wafers implanted during craniotomy for the resection of recurrent tumors.



Treatment protocols in development include the use of chemotherapy wafers during the initial craniotomy and resection of high-grade glioma as combination regional therapy with intra-carotid cisplatin and etoposide.

Stereotactic radiosurgery to treat benign as well as malignant tumors is performed in collaboration with the Department of Radiation Oncology. It offers patients with recurrent tumors an additional therapeutic option.

State-of-the-art techniques and equipment are used during surgical treatment of brain and spine tumors. The Department of Neurological Surgery uses image-guided neuronavigation that allows the aggressive resection of brain tumors previously deemed inoperable. The department also uses intra-operative ultrasound, awake craniotomy and cortical mapping for surgery near sensitive areas of the brain, operating microscopes for microsurgery, evoked potential monitoring for spinal tumors, and ultrasonic surgical aspirators for the removal of brain and spine tumors.

Dr. Gutman views an MRI of the brain

## Oncology Nursing

**Program leaders** are Lee Anne Xippolitos, RN, PhD, chief nursing officer and Rose Cardin, RN, MSN, associate director of nursing.

Stony Brook University Hospital has a mission to provide excellence in patient care, education, research and community service. Those providing oncology services at the hospital have an obligation to provide to patients cohesive seamless services that span across the cancer care continuum. Oncology nurses are an integral part of a team of professionals who have a mandate to be the drivers of these services through education, research, strong leadership and advocacy for a unique patient population.

Oncology nursing is a dynamic, evolving discipline based on the knowledge of human health derived from research, theory and practice. At Stony Brook University Hospital, oncology nurses have roles in all aspects of caring for patients with cancer in addition to opportunities to expand their scope of practice beyond the bedside. Oncology nurses work in adult and pediatric inpatient units, ambulatory care, radiation oncology, clinical trials, chemotherapy and infusion units, consultation and liaison services and in the hospital's recently expanded Blood and Marrow Stem-Cell Transplant program.

In 2005, the hospital's oncology staff implemented a change in the caregiving process that placed patients at the center of their own care. This initiative is called Patient Centered Collaborative Care. While a challenging endeavor, it is a required one in order to shift the emphasis from clinician-focused care to patient-focused care. The cornerstone of this change is to place patients in the center of the healthcare team, by supporting, educating and empowering them to become partners in their own care.

For the oncology nursing staff the process of Patient Centered Collaborative Care begins with a thorough understanding of the patient's condition, the goal of therapy, monitoring responses to therapy, reassessing and documenting signs and symptoms, and communicating pertinent information to other members of the healthcare team. The staff performs continual psychosocial evaluations and patient teaching throughout all phases of care, something that requires astute caregivers and astute nursing interventions. Oncology nurses have the privilege of interacting closely with patients who demonstrate courage during the course of their treatment whether the disease is cured, in remission, under control or progressing.

Plans of care are individualized to meet the needs of every patient and their families by incorporating preventive, therapeutic, rehabilitative and palliative nursing interventions. Oncology nurses at Stony Brook exhibit integrity and earn patients' trust through uncompromising professionalism. They demonstrate expert clinical knowledge to ensure that patients and their families receive safe, quality care. Oncology nurses are accountable for promoting and upholding standards of care and practice. They are required to evaluate the effectiveness of treatments and to evaluate how their care promotes quality and safety with measurable outcomes.

Margarree Perry, RN, with a patient in the Chemotherapy Infusion Suite





## Diagnostic Radiology

**Program leaders** are Donald P. Harrington, MD, director; Paul Fisher, MD; Seth Mankes, MD; William Moore, MD; Roxanne Palermo, MD; Steven Perlmutter, MD and Sol Spector, MD.

**D**iagnostic imaging plays a central and critical role in initial cancer diagnosis, treatment planning, palliative therapies through interventional techniques and cancer monitoring. The Department of Radiology at Stony Brook University Hospital offers state-of-the-art clinical care as well as support of major research projects in a number of modalities in both basic science and clinical areas. The department has been undergoing expansion and enhancement of services with the addition of healthcare experts and the acquisition of leading-edge equipment.

During the past year, the department welcomed additional faculty members who not only augment existing capabilities but who also bring expertise in a variety of new areas such as thoracic disease, breast imaging and computed tomography (CT) of the abdomen and pelvis.

The department has been expanding, purchasing new equipment and upgrading existing machinery. A positron emission tomography computed tomography (PET CT) scanner—a radically new technique that combines the strengths of nuclear medicine, which can detect abnormal function, with CT, which has exquisite ability in detecting morphologic changes, has been installed. This machine has substantially increased accuracy in detecting and staging malignancies. Approval for a major upgrade that will allow diagnostic CT studies with oral and intravenous contrast to be performed in conjunction with PET, alleviating the need to undergo additional, separate CT exams is anticipated shortly.

Three new CT scanners are now on line replacing single-slice helical CT capability with multi-slice capability. The most advanced of the scanners can simultaneously obtain 16 slices as small as 0.625 millimeters in 0.5 seconds. This translates

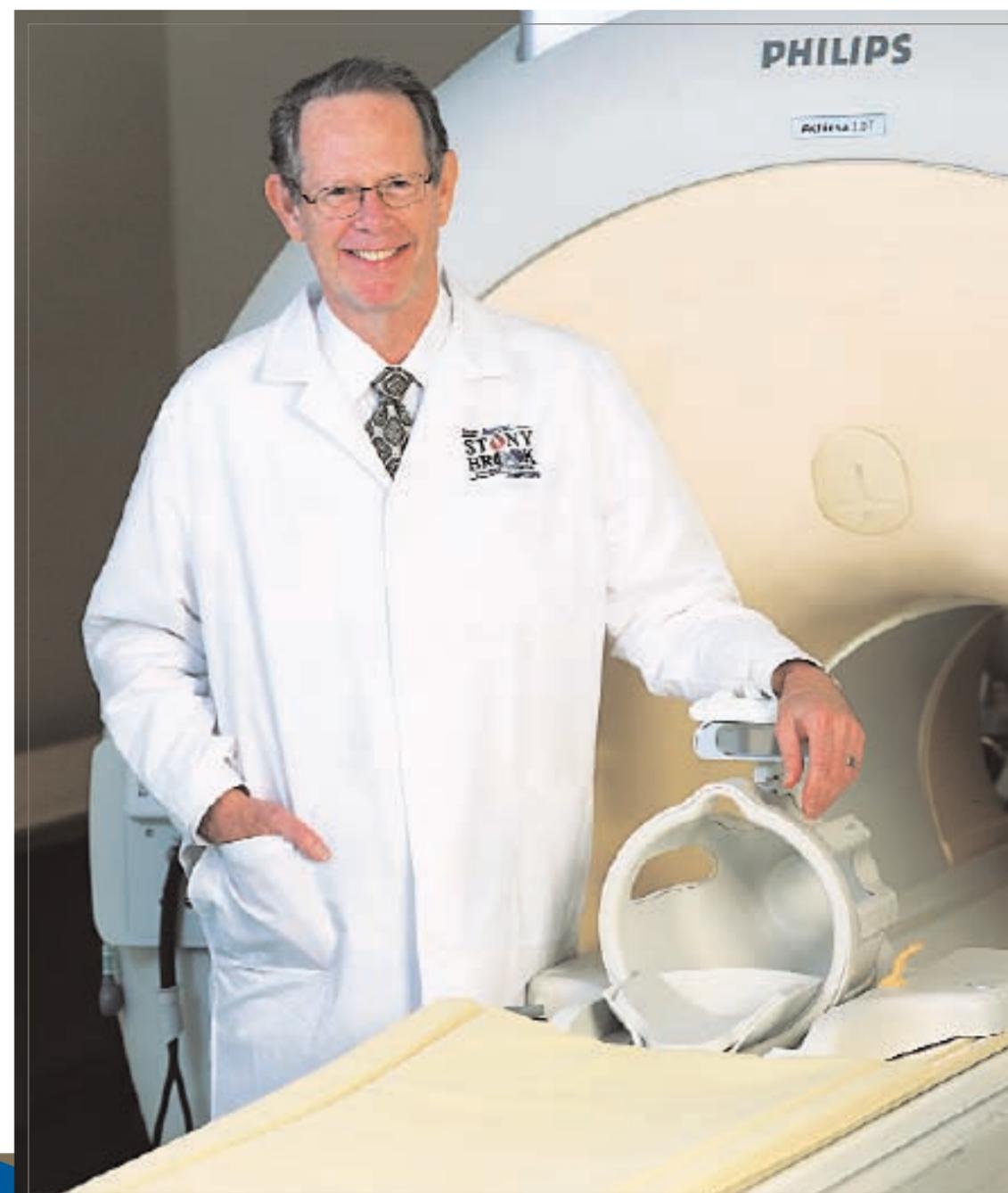
into increased accuracy and speed, along with the ability to produce high-resolution 3-D images.

Two magnetic resonance imaging (MRI) scanners have been replaced with state-of-the-art 1.5 Tesla (high-field) machines. A 3-Tesla MRI has been installed, which is currently the highest strength magnet in Suffolk County. These new MRI scanners will increase speed and accuracy of diagnosis and offer improvements in spectroscopy, allowing for non-invasive diagnosis of malignancies. The ultrasound units have been upgraded with tissue harmonics and increased field of view, and some now have the ability to perform 3-D imaging. The department recently installed and continues to upgrade a Picture Archiving and Communications System that allows rapid access to viewing computerized (digital) images at multiple sites for both radiologists and clinicians.

Several of the radiology faculty are involved with research projects related to cancer imaging. Edward Fiore, MD, is among an international group of researchers collecting data at multiple institutions to assess the accuracy and utility of low-dose CT screening for early detection of lung carcinoma. One of the newest faculty members, William Moore, MD, is participating in a study with the Pulmonary Medicine Department in lung cancer staging. The Nuclear Medicine section, spearheaded by Cora Cabahug, MD, and Dinko Franceschi, MD, are part of a joint project with the Pulmonary Medicine Group at Stony Brook University investigating the accuracy of PET in differentiating benign from malignant lung nodules. Erica Posniak, MD, and Jerome Liang, PhD, are part of an ongoing initiative to determine the accuracy of virtual colonoscopy, a technique where CT images are used to create simulated colonoscopic images in screening for premalignant colon lesions. Dr. Liang is also performing

research on making the preparation for virtual colonoscopy more tolerable. Many of the physicians in the department are involved in improving MRI and other CT protocols and developing new modalities for breast cancer imaging.

Physicians from the Radiology Department provide consultation at the multidisciplinary tumor board meetings and review images at case presentations.



Dr. Harrington at the new 3-Tesla MRI unit

## Pathology



**Program leaders** are Jay L. Bock, MD, chair, Pathology Department; Carmen Tornos, MD, director, Anatomical Pathology; Alan Heimann, MD, director, Cytopathology; Youjun Hu, MD, director, Frozen Tissue Bank; Philip Kane, MD; Bernard Lane, MD; Sharon Liang, MD; Jingxuan Liu, MD and Frederick Miller, MD.

**P**athology Department faculty members are an integral part of the multidisciplinary cancer care team at Stony Brook University Hospital. Recent advancements supporting the cancer care program include the use of synoptic protocols for reporting cancer specimens. The department further supports the cancer care program by its involvement in expanded departmental and site-specific cancer conferences supported by Department of Pathology faculty with relevant specific interest in the various specialties, which include breast, gynecology, colorectal and lung cancer, melanoma, leukemia and lymphoma.

Clinical pathology has introduced several new tests related to cancer, including expanded cytogenetic services and molecular tests using real-time polymerase chain reaction. Anatomic Pathology is performing testing for epidermal growth factor in relation to colon cancer. The Anatomic Pathology information systems upgrades allow for standardization in the diagnosis and treatment of cancer.

Clinical and research advancements in pathology continue to support the cancer program. Cancer continues to be a primary focus of basic research in the Department of Pathology, with programs addressing molecular events associated with tumor-cell invasiveness; mechanisms responsible for immortalization and dysregulation of the cell cycle in tumor cells, particularly with regard to

altered functions of the tumor suppressor protein p53; and carcinogenic effects of ionizing radiation.

A Frozen Tissue Bank established within the Department that allows storage and analysis of human tumors for correlations of molecular tumor characteristics with serum biomarkers and clinical outcomes is being utilized by our oncologist specializing in medicine and surgery. The Frozen Tissue Bank has a laser dissection microscope to aid in sophisticated studies on tumors.

**Dr. Tornos examines a tissue specimen**

# Community Outreach

## Cancer Liaison Physician

The physician liaison works with the Cancer Committee, helping it to meet cancer program goals such as expanding community outreach in cancer education and prevention in underserved communities, and interfacing with community resources for cancer control activities.

In providing direction and support for the hospital's cancer program according to criteria set by the Approvals Program of the Commission on Cancer, the liaison works with local community agencies and the American Cancer Society to develop and support cancer control programs for the community and uses data to evaluate programs. Stony Brook University Hospital's cancer liaison physician, Jedan Phillips, MD, is working with the Department of Family Medicine on a retrospective review project utilizing Medical Society and US Preventive Task Force Guidelines to determine the hospital's effectiveness in informing patients about cancer screening. Dr. Phillips continues to meet with volunteers for the Witness Project® of Long Island and works with lay persons and cancer survivors to educate the African American community about the risks of breast cancer and the importance of routine screening exams. As cancer liaison, he has also reached out to the community in two programs—Let's Talk About It, a program for men of color concerning the risks of prostate cancer, and the Town of Babylon Women's Day Program concerning issues related to breast cancer. Dr. Phillips was awarded with the American Cancer Society's 2005 Life of Hope award for cancer education in underserved communities.

**The cancer liaison physician** is Jedan Phillips, MD, Family Medicine.

## Education and Support

Community outreach plays a significant role in the Cancer Care Program. The Department of Patient Education offers seminars and lectures, health screenings and programs dealing with wellness and prevention. A key focus is smoking cessation for patients and community members. A six-week series is offered providing behavior modification to treat nicotine addiction. Cessation and education programs are also offered in partnership with the Suffolk County Department of Health and the Tobacco Action Coalition of Long Island. The American Cancer Society has



awarded the hospital two grants for smoking cessation, one for patients and the other for employees. In partnership with the Ward Melville Heritage Organization, a cancer education series covers four cancer topics throughout the year and is held at the Ward Melville Community Center. The Carol M. Baldwin Breast Care Center holds a monthly breast education program with

a wide range of speakers. The Social Work Department is completing its second six-month education program on cancer support issues. The hospital participates in National Hospital Week activities to promote health and wellness for employees and community members. Community education is also provided through the hospital's *Better Health, Better Living*, a widely distributed quarterly publication for the community that contains information about seminars, workshops, screenings, clinical trials and healthcare issues. Information for both professionals and community members can be obtained at [www.stonybrookhospital.com](http://www.stonybrookhospital.com), which links to Stony Brook's Long Island Cancer Center and Health Resource Center.

Stony Brook staff also work with the community to raise consciousness about cancer and to raise funds to support cancer care and research. On National Cancer Survivors' Day, Stony Brook hosted its first "Carousel of Life," a celebration of life and hope. The "Rising Stars" Talent Show provides children with cancer an opportunity to express themselves through theater arts. This year marked the hospital's ten-year anniversary of "Look Good... Feel Better," an American Cancer Society community-based program to support women undergoing cancer treatment. Annual events to raise funds include Walk for Beauty, Fall Fashion Festival, Little Miracles Fashion Show and Run for Life, among others. Funds have been raised by the hospital/School of Medicine's Gala, and events hosted by the Carol M. Baldwin Breast Cancer Research Fund. Many activities are held by community organizations and hospital divisions during the year in support of the hospital's cancer care programs.

**Program leaders** are Sabra Boughton, NP, PhD; Lynette LeePack-May, NP; JoAnn McCaslin, LCSW and Vimala Sivaraman, MD.



## STANDING STRONG FOR AMERICA'S FIRST RESPONDERS

Some were on site in a matter of minutes following the initial impact. Others were there as the second plane hit the south tower. Still others arrived as the unthinkable happened when the towers collapsed in a cloud of debris and vapor.

In the hours and days that followed, they came dressed in uniforms or in work gear, armed with the tools of their trade. These men and women, known as "first responders," entered into an area of unknown with a singular purpose—to rescue victims and save lives. Some lost their own lives in the process, and for those who survived, the mission too quickly changed to one of recovery and clean up.

site on Long Island. "Those who offered help—the 'first responders'—are hard-working, heroic people, who are the best of any community," says Benjamin Luft, MD, professor, chair of Stony Brook University Hospital's Department of Medicine and director of Stony Brook University's Long Island Occupational and Environmental Health Center (LIOEHC). "They came to our aid and they cannot be overlooked." More than \$7 million in grant money is enabling Stony Brook University Hospital to expand clinical and other services for 1,800 Long Islanders involved in the emergency effort, and will help to ensure that these men and women are neither forgotten nor overlooked. The LIOEHC is the only institution on Long Island to receive federal funds for the World Trade Center Medical Monitoring Program, which was established with a five-year \$5.2 million grant from the National Institute of Occupational Safety and Health (NIOSH). Additional grants from the American Red Cross September 11 Recovery Program Liberty Disaster Relief Fund totaling more than \$2 million will help support the study of physical and mental health ailments, ongoing and new,

nary amount of dust, debris and gases. It is not known what the impact will be on the long-term health of these individuals." The monitoring program allows a team of physicians, a psychiatrist, industrial hygienists, pulmonologists, social workers, and others to obtain a detailed evaluation of the exposure after patients undergo a comprehensive examination. Linda Cocchiarella, MD, M.Sc., acting director of the Long Island Occupational and Environmental Health Clinic, explains: "We want to evaluate people whether or not they are currently exhibiting symptoms. In the course of three examinations performed at 18-month intervals, it is highly likely that we will be able to identify developing health issues or determine whether an existing condition has been exacerbated as a result of the exposure." Physicians are finding respiratory infections, chronic cough, nasal congestion, asthma, acid reflux, sleeping disorders, depression, anxiety and post-traumatic stress disorder. Their goal is to intercede and mitigate these problems. "Most of the people I treat carry with them a sense of loss that they feel each and every day. In spite of that, they remain, for the most

### Melodie Guerrera, Dr. Luft, Dr. Cocchiarella and 9/11 Responder John Sferazo

More than 25 percent of the first responders to the World Trade Center attacks were from Long Island and more than 25 percent of those first responders who lost their lives were also Long Islanders. That is why many fought long and hard to secure funding to support initiatives to provide healthcare assistance for them at a

of first responders and their families. The LIOEHC works jointly with the Nassau County University Medical Center to operate a second site in Nassau County.

As Dr. Luft, principal investigator of the grants, notes, "Those who responded to the disaster were exposed to an extraordi-

part, hopeful. Some are symptom-free and are being proactive in monitoring their health; others are suffering from serious medical and mental health conditions and may face lifelong illnesses. Funding now, and hopefully well into the future, will help to provide the appropriate care for this population," adds Dr. Cocchiarella.



## AMERICA'S FIRST RESPONDERS

Prior to September 11, 2001, John Sferazo, prided himself on hardly ever having missed a day's work. A structural iron-worker with Local 361, the married father of three was a healthy, trim and athletic-looking 46-year-old who wasn't afraid of hard work. In addition to holding licenses in welding and burning, which he taught in apprenticeship programs, he earned a DEC certification in Wilderness Search and Rescue. In the early morning of September 11, 2001, John was working on a project on the Marine Park Bridge in Brooklyn. He recalls the collapses: "From our vantage point, you couldn't see clearly what was happening because of the dust and debris." His face contorts slightly when he adds, "But you could hear what was happening. You could hear the screeching and squealing of the metal as each tower collapsed." He and his coworkers quickly mobilized to make arrangements to get to the site with the equipment to help. They arrived on the scene very early the next morning with police and fire department trucks escorting them. John remembers going first into his "search and rescue" mode, knowing that his services as a burner would also be needed. Working with a police officer and a rescue dog, John took turns crawling in and out of the openings to the caverns that had been created by the fallen debris, looking for any signs of life. "Even after three, four, five days, we expected to find survivors. That's what kept you going," says John. He continued searching at the site and burning twisted metal for approximately 30 days, some nights returning home to his family on Long Island. At times, while working, he coughed up what he describes as "silver dollars." He also describes seeing something he had never seen before, an eerie green-colored smoke floating through the

air that he knew was caused by the release of noxious materials, a result of the meltdown of all the computer equipment.

Not long after the weeks spent at and near Ground Zero, John began developing respiratory infections, for the first time in his life. As the weather grew colder, he got sicker and sicker, eventually contracting pneumonia. With assistance from his union he began seeing a pulmonologist and by the beginning of 2002, John, continuing to work, filed for workers' compensation benefits. John is now enrolled in the WTC Medical Monitoring Program offered through the LIOEHC, where patients are seen at offices in Islandia, after he initially enrolled in a similar program at Mt. Sinai Hospital in Manhattan. Through the program, his health will be monitored and he will receive the appropriate referrals, testing and treatment. Disabled, John can no longer work. He has become an outspoken advocate to ensure that 9/11 responders receive the services and financial support they need.

Melodie Guerrero, director of administration and outreach for the Long Island Occupational and Environmental Health Center, coordinates the many aspects of the programs offered under the grants. A key part of her mission is to get the word out to those who would benefit greatly by participating. "This assistance is here to help the responders regain their lives," she says. "We want to reach out to everyone who helped...the electricians, transit workers, sanitation workers, communications people, everyone, including those who worked beyond Ground Zero, in places such as the landfill, morgue and surrounding areas." To date, screening, medical and social support services have been provided to over 1,200 people, with

anticipated total participation of 1,800 over the next four years. Although most participants are from Nassau and Suffolk counties, eligibility is determined by activity at the Trade Center site or surrounding areas; residence is not a factor.

Dr. Luft, too, is determined that the medical community maintains its resolve to help those who worked selflessly under the most dire conditions. "We are working closely with the unions whose members were affected, community-based organizations and volunteer organizations to reach as many people as possible who responded on September 11," says Dr. Luft. "Only through ongoing vigilance in the Medical Monitoring Program will we fully recognize the ramifications of the World Trade Center disaster on those who responded."

Besides providing care for the immediate and projected physical and mental well being of the first responders, physicians and researchers are hoping to learn much from their common experience. "This is a unique situation. It was by far the largest group of people exposed to industrial toxins, dust and debris that we know of—and, we know the timeframe of the exposure, an important factor in research," says Dr. Luft. Information about what has already happened to first responders, and what may eventually happen, will help researchers understand how exposure to different toxins can lead to chronic disease, including cancer. Says Dr. Luft, "The best scenario would be that the majority of these brave men and women do not experience serious problems. But, in the event they do, we need to be there for them."

For more information about services for September 11th Responders, call 631.642.9100.

# Clinical Support

## Chemotherapy Pharmacy

At Stony Brook University Hospital patient safety is a priority. To provide comprehensive and safe chemotherapy services, the hospital utilizes specially trained and credentialed chemotherapy pharmacists to review, prepare and dispense all chemotherapy. Multiple double-check processes are in place to ensure patient safety. A computer database is maintained by the pharmacists that highlights the specifics of all chemotherapy drugs and doses administered. This computer database also aids in the identification of potential adverse drug reactions before they can occur.

Over the past year, 10,590 doses of chemotherapy were prepared and dispensed to outpatients and 2,647 doses were prepared and dispensed to inpatients. These statistics represent an overall increase of nine percent over the previous twelve months.

**Program leaders** are Jeannene Strianse, RPh, MS, director; Benny Chan, RPh and Scot Weber, RPh, BCOP.

## Nutritional Services

Recent innovations in cancer care recognize the relationship between diet, nutritional status and cancer in both adult and pediatric patients. Stony Brook registered dietitians specialize in the care of oncology patients and are committed to the philosophy of early intervention for nutritional problems. It is important for individuals to consume a nutritionally adequate diet during cancer treatment. Poor nutritional status may cause intolerance to the treatment plan, necessitating breaks in therapy, dose reductions, or extended hospitalizations. Patients will feel better and be able to tolerate their course of treatment when they consume adequate nutrition. Unfortunately, eating well is not always easily accomplished for patients with cancer. Registered dietitians are available to help patients experiencing problems with eating that may be caused by side effects of radiation therapy, chemotherapy, or surgical procedures, or from the cancer itself. The dietitian will provide the patient and/or the caregiver with individualized, practical written information and verbal counseling to minimize any side effects the cancer treatment may have on the patient's ability to eat well.

A registered dietitian assesses each patient. Inpatient nutritional services focus on patients receiving optimal nutritional intake during their hospital stay. Special attention is given to patients to ensure that foods they will enjoy are made available by discussing with them their food preferences and offering menu alternatives, when possible. To assist in that effort, an executive chef oversees all food preparation. Nutrition education is provided to help the patient continue to maintain adequate intake upon discharge.

Outpatient nutritional services focus on developing and maintaining an eating strategy to minimize treatment side effects that may hinder intake. Outpatients are monitored continually and plans are modified as necessary. Registered dietitians provide follow-up care and nutrition education to the community through nutritional counseling, community support groups and educational programs.

In the past year outpatient nutritional services has consulted over 250 new patients. The outpatient nutritional staff is available Monday through Friday and may be contacted through HealthConnect® at 631.444.4000 or by scheduling an appointment at 631.444.1880.

**Program leaders** are Kathleen Werther, director; Janice Antino, RD, inpatient pediatric oncology dietitian; Jennifer Fitzgibbon, RD, inpatient adult oncology dietitian and Gretchen Garlow, RD, outpatient oncology dietitians.



## Pain Management

The Department of Anesthesiology's Acute and Chronic Pain Management Services is staffed by anesthesiologists with a special expertise in pain management. Through a multidisciplinary approach, the expert team of anesthesiologists works with the patient's oncologist to address pain management needs. Patients can be treated with many different modalities, on an inpatient as well as an outpatient basis. Hospitalized patients can receive oral, intravenous (IV), or central axis (epidural or intrathecal) medications given either through conventional routes or via patient-controlled analgesia (PCA).

Outpatients are seen offsite at the Center for Pain Management located at 181 Belle Mead Road, Suite 5, in East Setauket, a short distance from Stony Brook University Hospital. At the center, patients can be treated with one or more modalities, such as medication management, regional blockade, or acupuncture treatments. When appropriate, patients may also undergo interventional pain blocks, or surgical pain management techniques, such as spinal cord stimulation or intrathecal pump placement.

The pain service is available for both inpatient and outpatient consultations. The physician on call for acute pain consultation can be contacted through the hospital's Anesthesia Pain Service.

**Program leaders** are Peter S.A. Glass, MB, ChB, FFA (S.A.), chair, Anesthesiology; Carole W. Agin, MD, director, Center for Pain Management (chronic); Paul H. Willoughby, MD, director, anesthesia, Acute Pain Management; Rosaline Jerome, MD; Irina Lokshina, MD; Farrokh Maneksha, MD and Julie Scheuermann, NP.

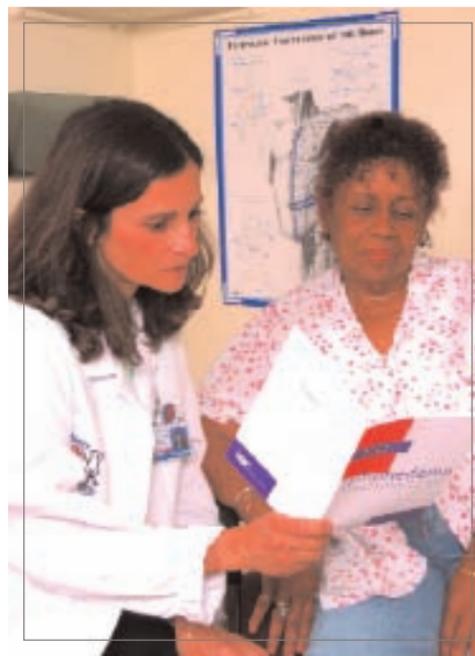
## Physical Rehabilitation and Lymphedema Therapy

The Department of Physical and Occupational Therapy provides both inpatient and outpatient physical rehabilitation services for adult and pediatric oncology patients. These services may include exercise for improvement of movement, strength and endurance; ambulation training; activities of daily living; and lymphedema management. All patients referred for either physical or occupational therapy receive a detailed assessment. An individualized treatment plan is developed incorporating the goals of the patient and family. Close communication is maintained with the referring physician throughout the course of treatment.

The Lymphedema Therapy Program targets the specific needs of patients with secondary lymphedema resulting from the effects of cancer treatment. This outpatient program has grown since its development in 1998. Three physical therapists have been specially trained and are dedicated to lymphedema treatment. Eighty percent of these patients have breast cancer-related lymphedema, while ten percent of the patients have lymphedema related to other cancer diagnoses. The Lymphedema Therapy Program follows the principles of complete decongestive physiotherapy (CDT) using manual lymph drainage, compression bandaging and compression garments, skin care, exercise and patient education.

In addition to patient care initiatives, the department is actively involved in community education participating in support groups for breast and gynecological cancers and in educational programs for patients, families and healthcare professionals. Research interests include factors that may assist in the early detection of lymphedema and the potential influence of breast reconstruction on patients with lymphedema.

**The program leader** is Catherine M. Tuppo, MS, PT, CLT-LANA, director, Physical and Occupational Therapy and director, Lymphedema Therapy.



## Chaplaincy Services

Chaplains of the various spiritual and religious traditions visit patients with cancer throughout the hospital. They provide counsel for the spiritual care of patients and families, and work with the hospice program to offer spiritual support. They attend multidisciplinary rounds and are active in cancer support groups and bereavement support.

**Program leaders** are Chaplain Stephen Unger, director and Chaplain Anne Coulehan.

## Palliative Care

The hospital has moved forward to initiate palliative care services to provide end-of-life symptom management for patients with advanced disease. Development of the program includes obtaining administrative support, introducing the language and philosophy of palliative care, devising an educational plan, and reviewing a variety of clinical assessment tools. Continuous Quality Improvement and Nursing Administration have conducted multidisciplinary meetings to assess and identify palliative care needs. A palliative project model has been developed that includes a consultative support service incorporating the language of palliation into faculty and staff education. Key staff participated in the Dissemination of End-of-Life Education to Cancer Centers practice model at the City of Hope Palliative Care Project in Duarte, California. Future plans include recruitment of a team that includes a physician, social worker, nurse practitioner and nutritionist to implement a train-the-trainer model to educate clinical staff and communicate with clinical faculty at joint practice meetings. Vision and management standards are in place to promote awareness of the palliative care model.

**The program leader** is Antoinette Forster, NP.

## Social Work Services

Social Work Services are an important component of the services available to oncology patients and their families. Social workers are assigned throughout the hospital to address the concerns and needs of patients and their families. A psychosocial assessment is made of each patient to determine what, if any, services he or she require.

Social workers address the needs of patients throughout the continuum of care. They address the psychosocial, emotional and family needs as well as entitlement to programs and other concrete services. The Department of Social Work Services is responsible for providing support groups to assist patients and their families.

**Program leaders** are Charles L. Robbins, DSW, director; Mohini Jose, LCSW, supervisor and GYN/Oncology; JoAnn McCaslin, LCSW, supervisor; Shirley Calhoun, LCSW, Carol M. Baldwin Breast Care Center; Paulet Farquharson, LCSW, Surgical Oncology and Radiation Oncology; Erin Hendrickson, LMSW, Medical Oncology; Darlene Ernest Kenny, LCSW, Medical Oncology and Blood and Marrow Stem-Cell Transplant Program; Kevin Lycke, LCSW, Pediatric Oncology and Geoffrey O'Connell, LCSW, Prostate Cancer Support Group.

## Cancer Helpline

Early detection of cancer yields the greatest chances for a cure. The Stony Brook University Hospital Cancer Helpline encourages callers to act promptly in order to increase their opportunities for early detection. A call to 800.862.2215 connects patients and their family members to Stony Brook oncology nurses, who are available Monday through Friday from 8:30 am to 7 pm. The community can also access the Cancer Helpline website to send an email or post a frequently asked question via the hospital's website. The oncology nurses staffing the Cancer Helpline are sensitive healthcare professionals attuned to the patient's specific needs and concerns. All calls are kept confidential and questions are addressed based on the most current cancer information available. Nurses have access to a computer information network that is supported by a database with the latest information from the National Cancer Institute, the American Cancer Society, Stony Brook University Hospital and approved reference texts. Questions on prevention, risks, screening, detection, second opinions, terminology and current research are addressed. The nurses can match a caller with physicians or community services, if requested.

**Program leaders** are Teresa Beutel, MS, director, Healthcare Teleservices/Resource Centers and Lori Tischler, RN, MSN, oncology nurse.

# Research

**B**asic and clinical research attempt to uncover possible causes of cancer; develop improved methods for prevention, early diagnosis and treatment; and discover cures. The Department of Preventive Medicine is the research affiliate of the Long Island Cancer Center (LICC). The residency program in General Preventive Medicine and Public Health, now in its 21st year, received training support from the American Cancer Society and a federal Health Resources and Services Administration Grant that contributed to teaching, cancer research and community service on Long Island. Preventive Medicine conducts a number of cancer research projects and provides core support primarily in biostatistics and epidemiology for research by other departments throughout the hospital and university. As a premier academic medical center, Stony Brook has researchers who are actively engaged in promising scientific studies. Research includes participation in prominent national studies, community-based projects and scientific investigation and laboratory research.

Dorothy S. Lane, MD, MPH, is principal investigator (PI) and Iris Granek, MD, MS, is co-principal investigator (co-PI) for the National Health Lung and Blood Institute (NHLBI) Women's Health Initiative (WHI) Clinical Center at Stony Brook. The national WHI Clinical Trial and Observational Study are having a profound effect on medical practices following the findings of its post-menopausal hormone trials. Major outcomes studied are breast and colorectal cancer, cardiovascular disease and fracture due to osteoporosis. Outcomes of the dietary modification and the calcium and

vitamin D supplementation trial will be released in February 2006; WHI follow-up has been extended through 2010. Almost 3,400 women have enrolled in the Stony Brook WHI Clinical Center. Dr. Lane is also PI for two new National Cancer Institute (NCI)-supported research projects, titled "Reducing Barriers to Breast Cancer Screening" and "Colorectal Cancer Screening in County Health Centers." Catherine Messina, PhD, is co-PI; John Chen, PhD, is a co-PI; and Mary Cavanagh, MD, MPH is the co-investigator and project coordinator.

The hospital and the School of Medicine will receive \$2.1 million over the next three years from the Centers for Disease Control and Prevention (CDC) to launch a colorectal cancer screening demonstration program for low-income adults age 50 and older who have little or no health insurance coverage for regular screenings. Dr. Lane is director of the new program, titled, Suffolk County Preventive Endoscopy (SCOPE). Stony Brook is one of five institutions nationwide to receive CDC funding for this program, which provides free colonoscopies for qualifying individuals; it is the only academic medical center selected from NYS. SCOPE was developed, in part, to address some of the needs identified as a result of an NCI-funded project, conducted by Dr. Lane, attempting to reduce barriers to colorectal cancer screening and to determine to what extent interactive continuing medical education programs influence the frequency of colorectal cancer screening in primary practices that serve multi-ethnic and underserved populations. The initiative involves collaboration among the Department of

Preventive Medicine, Surgical Oncology, and Gastrointestinal Divisions in the Departments of Medicine, Pathology and Diagnostic Radiology. The University will work in conjunction with the Suffolk County Department of Health Services, along with the support of the American Cancer Society and community groups to provide colonoscopy, follow-up care, and conduct public education and outreach on colorectal cancer screening. Screening colonoscopies will be done by Stony Brook gastroenterologists and other gastroenterologists in Suffolk County. The effectiveness of the program will be evaluated during the three-year grant period. Co-investigators with Dr. Lane are Joseph Anderson, MD, lead endoscopist, Mary Cavanagh, MD, MPH, lead public health clinician and Catherine Messina, PhD, project data manager.

As one of the centers throughout the US, Canada and Puerto Rico participating in the Selenium and Vitamin E Cancer Prevention Trial (SELECT) sponsored by the NCI, Stony Brook completed its enrollment with 372 men, among the highest in the nation. This 12-year prevention clinical trial is designed to study whether selenium and vitamin E can prevent prostate cancer. The trial is led by Iris Granek, MD.

M. Cristina Leske, MD, MPH, and Barbara Nemesure, PhD, are conducting a three-year epidemiological study of environmental and genetic risk factors for prostate and breast cancer in the African-Caribbean population of Barbados. Information has been amassed on more than 500 people with cancer and 650 control participants, and genetic analyses is being conducted.

The Barbados National Cancer Study is a collaborative effort among Stony Brook, the Ministry of Health in Barbados, the University of West Indies and the National Institutes of Health (NIH), and is funded by the National Human Genome Research Institute.

The Long Island Cancer Center Database Project on breast and prostate cancer, supported by a \$1 million Department of Health and Human Services grant received in 2002, provides a resource of information and biologic material for genetic and proteomic studies on these cancers. Blood samples and medical histories from patients and control participants are collected to study cancer predispositions and search for detection of molecular markers for potential early diagnosis. As of September 2005, 874 individuals have entered the database including 323 women who have had breast cancer and 278 who have not had breast cancer, and 74 men who have had prostate cancer and 168 who have not. More than 450 participants completed a one-year follow-up and 70 participants completed the two-year follow-up. The project is expected to end January 1, 2006, with a total participation of 500 women who have had breast cancer and 400 who have not. Accrual of patients with prostate cancer and participants in the control group will continue after January 1, 2006. This segment of the project "piggybacks" on the Selenium and Vitamin E Cancer Prevention Trial (SELECT) of the Southwest Oncology Group (SWOG), where Stony Brook is a major contributor. With approval of SWOG, participants in the SELECT trial are invited to participate in the database; 70 have already enrolled. The Database Project involves Preventive Medicine's Division of Epidemiology and the General Clinical Research Center (GCRC). John S. Kovach, MD, director, LICC and acting chair, Preventive Medicine, is the PI; co-investigators are Erin O'Leary, PhD, and Elinor Schoenfeld,

PhD. Blood drawing is done in the GCRC under the direction of Marie Gelato, MD, PhD, GCRC program director.

Galina I. Botchkina, PhD, Surgery/Surgical Oncology, is conducting a study on early, noninvasive/minimally invasive molecular cancer detection based on levels of telomerase activity to determine molecular markers for gastrointestinal cancers and prostate cancer, and then developing large-scale clinical trials based on these markers. She is collaborating with Martin Karpeh, MD, chief of Surgical Oncology, and Howard L. Adler, MD, director, Prostate Care Program. Basic research is funded by the Department of Defense and the NIH; funds are being sought for clinical trials. Dr. Botchkina is collaborating with the University's Department of Electrical and Computer Engineering and Advanced BioPhotonics Inc. on the development of the Telomerase and Gene Analyzer based on the real-time PCR/capillary electrophoresis for clinical instrumentation needs.

Tamoxifen remains a first-line form of hormone therapy for breast cancer and a chemopreventive agent for healthy women at risk for developing the disease. Women who take it are at a small but increased risk of developing endometrial cancer as an adverse effect. Shinya Shibutani, PhD, Pharmacological Sciences, is studying the mechanisms behind tamoxifen-induced endometrial cancer. His research is funded by the National Institute of Environmental Health Sciences. Dr. Shibutani and colleagues hope to discover biochemical causal mechanisms, then develop new and safer anti-estrogen agents. Dr. Shibutani identified some genetic and toxic changes associated with tamoxifen-induced endometrial cancer. Research in rats and primates suggests that the carcinogenic action of tamoxifen occurs from mutations induced by DNA adducts derived from its metabolites. In the body, tamoxifen is con-

verted into several metabolites, one of which is activated further by a group of enzymes and reacts with DNA, especially in endometrial tissue, to form a complex structure called a DNA adduct. These tamoxifen-DNA adducts code wrong nucleotides during DNA replication, which generates mutations that initiate the development of cancer.

Dafna Bar-Sagi, PhD, chair, Department of Molecular Genetics and Microbiology, continues to investigate a genetic defect in mice that leads to pancreatitis, which subsequently may also lead to pancreatic ductal adenocarcinoma (PDA) supported by a \$100,000 grant from the Lustgarten Foundation for Pancreatic Cancer Research. The mutation activates trypsinogen, a protein secreted by the pancreas and is the same defect found in some people with hereditary pancreatitis (HP). Those with the mutation and HP have a 40 percent or more lifetime risk of developing PDA. Dr. Bar-Sagi and colleagues plan to unravel the mechanism that activates the digestive enzyme trypsin (converted from trypsinogen) and induces pancreatitis in the mice and subsequently develop innovative methods for early diagnosis of pancreatitis and predisposing conditions of PDA, as well as create therapeutic interventions. Researchers hope to discover how to interfere with the consequences of the mutant trypsin activation in mice to learn more about the role of chronic inflammation in the initiation of PDA, which may eventually be useful in developing diagnostic and therapeutic tools for people with HP who develop PDA. A proliferation of cells in the pancreatitis mouse model that appears to be a progression toward cancer has been identified. These cell changes depict very early stage PDA and indicate a potential link between the inflammatory process and cancer. The next research phase will observe the evolution of pancreatitis to early cancer in this model and find genetic markers that dictate this disease process.

In other research involving chronic pancreatitis, Howard C. Crawford, PhD, Pharmacological Sciences, is attempting to better understand the molecular basis of pancreatic cancer in an effort to discover early detection methods and novel therapies. Focusing on an enzyme (MMP-7) expressed in high frequency in pancreatic cancer and chronic pancreatitis in mice, Dr. Crawford is testing the involvement of MMP-7 in multiple mouse models and studying how chronic pancreatitis may lead to pancreatic cancer in these animals.

Wen-Tien Chen, PhD, Department of Medicine, with support from a four-year \$3.8 million NCI grant awarded in 2004, is developing a technology that separates circulating tumor cells from blood samples of patients with cancer with solid tumors. The technology shows promise for clinical applications, including prediction of prognosis and determining treatment options for metastatic disease. It also may be an indicator for early-stage cancer, a long-term goal of the research. The grant further advances Dr. Chen's research involving collaboration with clinicians at the LICC and the GCRC, who provide blood and tissue samples of patients with gastrointestinal cancers, mainly pancreatic and colorectal cancers. As a joint venture with Stony Brook University, Dr. Chen has established a biotechnology company focusing on commercializing cell separation technologies in the form of blood tests for cancer diagnosis. The technology is based on the theory that tumor cells invading the blood are a key reason why metastases occur, which frequently leads to poor outcome and death in patients with cancer. A team of clinicians and researchers from the LICC, GCRC and the biotechnology company have used several blood test prototypes to detect the presence of more than 100 tumor cells from 95 percent of the blood samples taken from 250 patients with adenocarcinomas of the ovary, pancreas, colon, prostate, breast and lung at stages III or IV of disease. When compar-

ing the blood samples of 250 healthy donors, none of the samples showed a presence of tumor cells, thus indicating no false positive results. Dr. Chen expects to continue testing the cell-separation technology with blood samples from Stony Brook patients and others to confirm the validity of the diagnostic and staging tool. The cancer-cell separation method is also being tested as a diagnostic for ovarian and lung cancers, both of which do not have standard early detection methods. The technology may be helpful in diagnosing and staging lung cancer because the method shows promise for improving the sensitivity of lung biopsies, since lung tissue is often watery and difficult to biopsy. In 2004, Dr. Chen began collaborating with Stony Brook's lung cancer specialists to use the technology for lung biopsies, as well as to begin developing a lung cancer diagnostic tool based on a blood test.

Created jointly by the hospital and the School of Medicine, a Frozen Tissue Bank began operating in 2004 to provide investigators with normal and abnormal human tissue and blood for studies on the nature and cause of human cancers. Youjun Hu, MD, Pathology, directs the tissue bank and works with cancer surgeons to attain tissue. Tissue samples are derived from material not needed for clinical purposes. Patient confidentiality is maintained and patients give consent before banking any tissue specimens. Nearly \$300,000 was awarded from the Health Resources and Services Administration to acquire specialized equipment for the bank.

## Cancer Clinical Trials Office

**T**he Cancer Clinical Trials Office assists Long Island Cancer Center (LICC) investigators in developing and completing scientifically valid clinical trials in an organized, cost-effective and

methodologically sound manner. Major areas of responsibility include protocol support services, such as activation and monitoring, data management and providing research nursing support.

The Cancer Clinical Trials Office provides access to state-of-the-art cancer treatment through involvement in a growing number of interdisciplinary clinical trials. For over a decade, it has participated in the Eastern Cooperative Oncology Group, the Children's Oncology Group, and the National Surgical Adjuvant Breast and Bowel Project, as well as phases I, II and III pharmaceutical and in-house therapeutic research programs. Greater access to cancer cooperative group trials has been established by participation in the NCI-sponsored Clinical Trials Support Unit. The office is a center for information and education on investigational treatment for clinical cancer services for the LICC and community oncologists. Approximately 80 protocols are available to patients with different types of cancer. Research nurses coordinate research activities and provide advocacy, care and education for patients on cancer protocol treatment.

Over the past several years, the Cancer Clinical Trials Research Program has expanded to include prevention trials. As a designated site for the Study of Tamoxifen and Raloxifene (STAR), Stony Brook University Hospital has offered patients in Suffolk County options for breast cancer prevention. Additional expansion provides research programs for leukemia, lymphoma, bone marrow transplant and selected autoimmune diseases. Resources can be accessed through the Stony Brook University Hospital website and through the National Cancer Institute's electronic and print media. Program leaders are Patricia Hentschel, MS, NP; research nurses, Margaret Bayard, RN, Gerty Fortune, RN, June Giardelli, RN, Kim Rauso, RN; assistant, Lydia Reveron.



## RESEARCHER INVESTIGATES A SUPER-POTENT ASPIRIN TO PREVENT COLON CANCER

**As Basil Rigas, MD, and professor of Medicine, puts it, "Stony Brook is undergoing a 'sea change' with respect to cancer care and research."**

Dr. Rigas recently stepped into the role of chief of the Division of Cancer Prevention, a position created in 2004 by Benjamin Luft, MD, chair of the Department of Medicine, in response to the hospital's increased emphasis on cancer prevention. A virtual newcomer to Stony Brook with a highly regarded reputation as a successful medical scientist and years of experience working at Ivy League institutions, Dr. Rigas sees here an academic medical center that has earned its place as one of the best in New York, and among one of the best in the country.

The sea change Dr. Rigas speaks of is evidenced almost everywhere throughout the hospital. New leadership with a vision toward the future is literally rebuilding the hospital to elevate it new heights. New facilities are being designed and built to better provide seamless delivery of care to patients; the acquisition of innovative equipment for optimum diagnostics and treatment is ongoing; and, most important, recruitment of outstanding physicians and scientists who work as clinicians and in laboratories—experts who

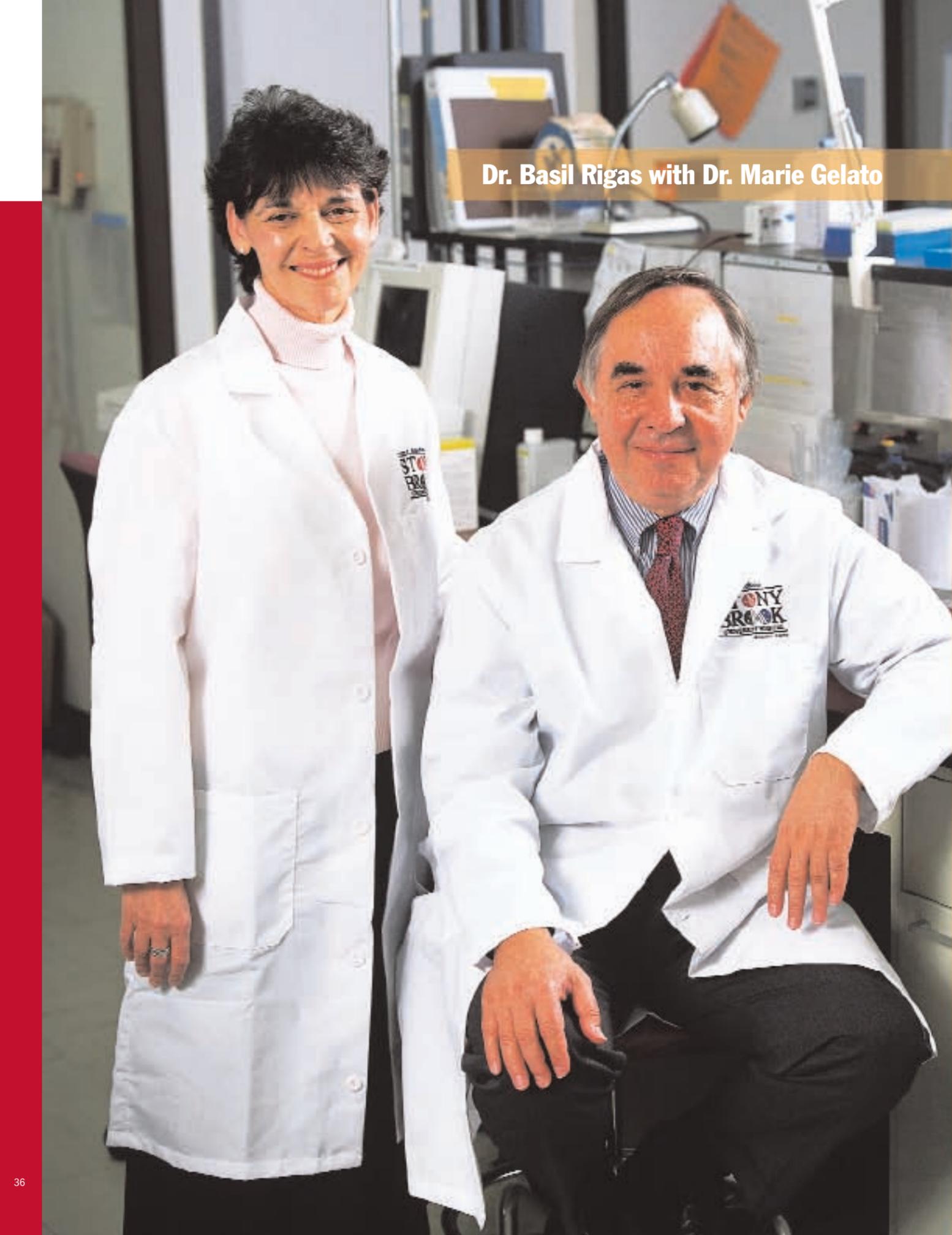
not only provide advanced care for patients but also conduct research in an effort to discover novel treatments for disease and ways to eradicate its occurrence—is a top priority.

One example of research that has progressed from theory to laboratory testing and has now moved to the clinical trials phase is Dr. Rigas' study of a super-potent, nitric oxide-donating aspirin, or "nitroaspirin," as preventive therapy for colon cancer. While early study results are promising, a long road of research lies ahead. However, preliminary results were compelling enough for Stony Brook University Hospital clinicians from the divisions of Gastroenterology, Hematology/Oncology, and Surgical Oncology to begin working with Dr. Rigas and his colleagues to explore the efficacy of this new therapy. The National Cancer Institute has approved funding in the amount of \$3.2 million to support clinical trials at Stony Brook, the only site for an NIH-funded study of this type, to determine the effectiveness and safety of nitroaspirin for people at risk for developing colon cancer. According to the American Cancer Society more than 145,000 new cases of colorectal cancer are diagnosed in the United States each year and more than 56,000 Americans die of the disease annually.

Traditional aspirin has been shown in clinical studies to prevent certain cancers and reduce recurrence. But, as Dr. Rigas emphasizes, there are two glaring problems with using aspirin; namely, it is effective, at most, in only half who take it, and it causes adverse side effects, such as

allergic reactions, gastrointestinal bleeding and kidney damage, all of which can sometimes prove fatal. By coupling to aspirin a moiety that releases nitric oxide, the resulting "nitroaspirin" retains aspirin's therapeutic effects while avoiding its undesirable side effects. "Nitroaspirin has been modified to release nitric oxide, which has been shown to have numerous positive effects within the cardiovascular and respiratory systems in people," says Dr. Rigas. And, most encouraging is the fact that laboratory results have shown that nitroaspirin is hundreds of times more potent than traditional aspirin in inhibiting the growth of colon cancer cells in cell cultures and has been effective in preventing colon cancer in laboratory animals as well.

The most dramatic advances in the fight against cancer revolve around early detection and the discovery of new treatments, prevention and potential cures. It is known that all colon cancers begin as aberrant crypt foci (ACF), the earliest recognizable lesions. These ACF can then progress to polyps, which in turn can become cancerous. The ability for researchers to observe colon lesions at the ACF stage is key. Colon cancer can take years to develop, with studies of benign polyps usually taking two to three years of observation. What will help expedite the study of nitroaspirin, also known as "superaspirin," as a therapy is the availability of a highly innovative "super-endoscope." Using this instrument, which in a sense is part microscope and part endoscope, physicians can perform a technique called magnifying endoscopy that


 Dr. Basil Rigas with Dr. Marie Gelato

provides a 150-fold magnified view of lesions inside the colon. In this way, changes in ACF can be detected and evaluated. Dr. Rigas traveled to Sapporo, Japan last year to receive specialized training in the use of the magnifying endoscope, and will be teaching other physicians how to use this advanced technique.

In upcoming clinical trials, magnifying endoscopy will allow physicians to visually observe and actually count the number of ACF present in the colons of those participating. After six months of treatment with the nitroaspirin or a placebo, in accordance with study protocols, participants will undergo a follow-up magnifying endoscopy, where researchers will compare the number of ACF before and after treatment. While it is never easy to predict results in people based on results in the laboratory, Dr. Rigas has consistently found that for a high percentage of mice with colon cancer treatment with nitroaspirin inhibited tumor growth and may have prevented new tumors from growing—all with no detectable adverse side effects. “Ideally, what we hope to find in the course of clinical trials on people,” says Dr. Rigas, “is a reduction in the number of ACF and that the features of ACF shift to benign.”

Active recruitment for the clinical trials is currently taking place. Investigators are reaching out to men and women, 50 years of age and older, from all ethnic groups, who have had colon cancer or colon polyps. Physical examinations and blood and other laboratory tests will be conduct-

ed to establish eligibility. A pilot study is currently underway to determine the absorption, distribution, metabolism and excretion of the drug, and a phase I trial will follow. The trial is a randomized, double-blind, parallel group, placebo-controlled study will ultimately involve approximately 240 participants who will be divided into three groups. One group will receive 400 milligrams of nitroaspirin, another group will receive 800 milligrams, and a third group will be administered a placebo, all over a six-month period.

Now that the study of nitroaspirin is moving forward to the clinical trials stage, Dr. Rigas is extremely grateful for what he calls, “a tremendous resource for researchers and for the broader community”; namely, the hospital’s General Clinical Research Center (GCRC). The GCRC is one of only 79 federally funded centers of excellence for clinical research nationwide. The center provides ongoing support for investigators to conduct research in an optimal setting. Resources at the GCRC enhance clinical investigations across every discipline at Stony Brook while fostering an environment that encourages collaboration among research scientists. The center provides assistance to researchers funded by federal, state and local agencies as well as by the private sector. With its core resources shared by investigators, the GCRC’s facilities are conducive to collaboration among bench and clinical researchers. This environment has enabled Stony Brook to develop and maintain a nationally prominent roster of expert investigators. The GCRC

is also a site for training healthcare professionals in clinical research and its location at Stony Brook University Hospital is vital to the process of translating basic science advances into new and improved treatment methods.

Marie Gelato, MD, PhD, a professor of Medicine in Stony Brook’s School of Medicine and the GCRC program director, says, “It is a privilege for me and for my staff to work with dedicated physicians and researchers whose objective is to translate advances in basic science into new or improved methods of patient care.” Dr. Rigas is equally impressed. “With Dr. Gelato’s outstanding leadership and a highly trained and skilled nursing staff, the services provided through the GCRC are indispensable.”

To bring about advancements in cancer treatment, participation on many levels is necessary. Dr. Rigas emphasizes the importance of a multidisciplinary approach to research with involvement and input from physicians and researchers across a broad spectrum of interests and expertise. He also recognizes the need for the support of fellow physicians from in and around the community. “We cannot accomplish our studies without the backing of a community who hopefully will embrace our initiatives,” says Dr. Rigas. “Our ultimate goal is to bring successful treatments to clinical use as quickly and safely as possible, and to identify and potentially eliminate cancer, thus saving lives.”

# Quality and Standards

## Cancer Services Quality Management

The Cancer Services Quality Management Program works to ensure the delivery of safe, effective, efficient and accessible care to meet or exceed patient expectations. It is part of the hospital's Department of Continuous Quality Improvement, which provides a collaboratively planned, systematic, hospital-wide approach to designing, measuring, assessing and improving organizational performance. Key aspects of patient care and professional and administrative functions are evaluated to identify improvement opportunities and implement timely action plans and process improvements.

Cancer program standards demand that services, care and patient outcomes be evaluated and improved so that patients receive care comparable to nationwide standards. The Quality Management Program responds to the Cancer Committee's direction in setting performance improvement priorities that directly affect patient care. Through the development of an Oncology Dashboard with the input of the Cancer Committee, Cancer Clinical Service Group, Oncology Leadership Council members, and other cancer services professional staff, data are collected on selected indicators and compared to benchmarks for analysis.

The program fosters a work environment that encourages the creation, assessment and redesign of processes and systems to achieve continuous improvement in outcomes and staff performance. Each member of the cancer services management, clinical staff and support personnel play a role in ensuring quality of services and performance improvement.

**The program leader** is William Greene, MD, associate director, Medical Regulatory Affairs.

## Tumor Boards

Multidisciplinary departmental and site-focused tumor board meetings were held weekly at Stony Brook University Hospital in 2004 and 2005. These cancer conferences are a key component of our cancer program. They are integral to patient management and outcomes evaluation and provide a valued educational forum. Cases are presented for diagnostic assessment, staging, treatment planning, retrospective review and education during all phases of care. Case presentations, discussion and collaborative planning at tumor boards provide opportunities for participation in research protocols and for consideration of new and emerging standards for patient management.

It is recognized that consultative services are optimal when physician representatives from diagnostic radiology, pathology, surgery, medical oncology and radiation oncology participate in facility-wide conferences. Other participants include representatives from pulmonary medicine, dentistry, nursing, pain management, social work, pharmacy, nutrition, physical therapy, speech and hearing, cancer registry and research. Faculty, residents, interns, fellows and students in all specialties attend and participate in discussion relevant to clinical education. The departmental and site-focused tumor boards include Breast, General Medical and Surgical Oncology, Head and Neck, Brain and CNS, Leukemia and Lymphoma, Lung, Melanoma, Pediatric, Gynecologic Oncology and Urology conferences.

## Tumor Board Schedule

Medical and Surgical Oncology	every Tuesday, 7:30 am
Head and Neck	weeks 1 and 3
Urology	week 2
Melanoma	week 2
General Oncology	weeks 4 and 5
Gynecologic Oncology	Wednesdays, 7 am, weeks 1, 2, 3, 5
Lung Cancer	Wednesdays, 2:30 pm, weeks 2 and 4
Surgical Oncology Treatment Planning	every Thursday, 4 pm
Pediatric Oncology	Thursdays, 4 pm, weeks 1 and 3
Breast Treatment Planning	every Friday, 7:30 am
Leukemia and Lymphoma	Fridays, noon, weeks 2 and 4

## Cancer Registry

Cancer registries gather information to assist the healthcare community to better understand cancer. Data collection is performed in the Stony Brook University Hospital Cancer Registry using an electronic database system in which 33,826 cancer case records have been entered and stored since the registry's inception in 1984. Case ascertainment continues using methods that employ current technology and enable the inclusion of all inpatient and outpatient cases at Stony Brook University Hospital.

Information on cancer site, stage, histology, treatment, survival and epidemiological characteristics is maintained in accordance with quality, security and confidentiality standards. Lifetime follow-up is actively collected on analytic cases dating back to the follow-up reference date of January 1, 1993. Follow-up updates of hospital system encounters are added to all records. A 91 percent successful follow-up rate is currently maintained. The data is collected and managed by certified tumor registrars (CTR) and trained staff who actively participate in continuing education to maintain credentialing, and in professional association activities. Stony Brook hosted the Long Island Cancer Registrars Association Spring Conference May 13, 2005 providing expert faculty speakers for the educational program. Cancer Registry staff attended the National Cancer Registrars Association meeting in New Orleans, LA, April 10 through 14, 2005.

Quality assessments are performed in accordance with national coding standards. Cancer Committee physicians meet with registry staff weekly to review at least ten percent of records for data accuracy and completeness of documentation on cancer stage, identification of anatomic site, histology, treatment and follow-up, with discrepancies returned for re-assessment. Peer review by re-abstracting case records is routinely performed. Coding consensus case discussions occur at monthly department meetings.

Qualified researchers, administrators and clinicians utilize cancer statistics for grant writing, research, administrative planning, quality improvement and clinical outcome measurement activities. Through the use of updated National Program of Cancer Registries standardization methods and quality control programs, data are combined with the New York State Department of Health Cancer Registry according to government mandates and result in the publication of important statistics for public use.

Internal requests for data for research, education, clinical outcomes and administrative planning purposes have averaged 30 per year over the last seven years. Participation in the American College of Surgeons Commission on Cancer, National Cancer Data Base Annual Calls for Data and Special Studies provides the hospital with comparative data on the major cancer sites, including stage III lymph node, positive colon cancer and prostate cancer, and enables faculty to assess clinical processes and outcomes using nationally accepted methods and standards of care.

The Cancer Registry has participated in the American Cancer Society's facility information profile initiative since 2001. Cancer statistics are published and disseminated in annual reports, which are distributed throughout the community. Cancer registry statistical reports are used to support research and community outreach, and are presented at cancer conferences and administrative meetings. These reports include annual cancer site incidence tables and site-specific studies featuring descriptive statistics and comparative outcomes data and have presented on cancers of the head and neck, lung, ovary, thyroid, colon and rectum, prostate and breast. These are posted and may be viewed on the Cancer Registry website at [www.StonyBrookHospital.com/CancerRegistry/](http://www.StonyBrookHospital.com/CancerRegistry/).

**Program leaders** are Vencine Kelly, CTR, director; Margaret Celestino, follow-up secretary; Katherine Garistina, CTR; Kristen Laub-Palumbo, CTR and Carole Whitehead, CTR.

## Professional Education in Cancer Care

July 1, 2004 - June 30, 2005

AMA PRA Category 1

Approved by School of Medicine/Office of Continuing Medical Education

Stony Brook University

DATE	TITLE OF LECTURE/CONFERENCE	PRESENTING DEPARTMENT
Oct. 2, 2004	16th Annual Conference on Mammography	Office of CME
Nov. 6, 2004	Hand Assisted Laparoscopic Colon and Rectal Surgery Workshop	Surgery
Jan. 12, 2005	Epidemiology of Gynecologic Cancers	Obstetrics/Gynecology
Jan. 12, 2005	Benign Lesions of the Breast	Pathology
Jan. 12, 2005	IR Applications in Oncology	Radiology
Jan. 20, 2005	Renal Masses in Childhood	Radiology
Jan. 26, 2005	Genetics of Gynecologic Cancers	Obstetrics/Gynecology
Jan. 26, 2005	Minimal Residual Disease Studies in Acute Leukemia	Pathology
Feb. 2, 2005	Cancer Screening and Prevention	Obstetrics/Gynecology
Feb. 9, 2005	Mucinous Tumors of the Ovary	Pathology
Feb. 9, 2005	Surgical Principles in Gynecologic Oncology	Obstetrics/Gynecology
Feb. 23, 2005	Use of Immunohistochemical Stains in Differentiating Clear Cell Carcinomas	Pathology
Feb. 23, 2005	Premalignant Conditions in Gynecologic Oncology	Obstetrics/Gynecology
March 2, 2005	Malignant Conditions of the Cervix and Vagina	Obstetrics/Gynecology
March 2, 2005	Radiation Effects in Normal Tissues: The New Formalism	Radiation Oncology/Medical Physics
March 2, 2005	Visiting Professor Lecture Series in Radiation Oncology	Radiation Oncology
March 5, 2005	Hand Assisted Laparoscopic Colon and Rectal Surgery Workshop	Surgery
March 9, 2005	Endometrial Cancers	Obstetrics/Gynecology
March 16, 2005	Epithelial Ovarian and Fallopian Tube Cancer	Obstetrics/Gynecology
March 19, 2005	Urology Symposium	Urology
March 23, 2005	Cancer During Pregnancy	Obstetrics/Gynecology
March 30, 2005	Ancillary Studies in Soft Tissue Tumors	Pathology
April 6, 2005	Development and Implementation of Helical Tomotherapy	Radiation Oncology/Medical Physics
April 6, 2005	Visiting Professor Lecture Series in Radiation Oncology	Radiation Oncology
April 13, 2005	Treatment of Laryngeal Cancer	Otolaryngology
May 4, 2005	Visiting Professor Lecture Series in Radiation Oncology	Radiation Oncology
May 11, 2005	Benign Disorders of the Larynx	Otolaryngology
May 18, 2005	Radiation and Cancer	Pathology
May 22, 2005	Hand Assisted Laparoscopic Colon and Rectal Surgery Workshop	Surgery
June 1, 2005	Lessons from Childhood Cancer	Radiation Oncology/Medical Physics
June 1, 2005	Visiting Professor Lecture Series in Radiation Oncology	Radiation Oncology
June 2, 2005	Skin Cancer (31st Annual Family Medicine Update)	Family Medicine
June 2, 2005	Skin Biopsy (31st Annual Family Medicine Update)	Family Medicine
June 26, 2005	Laparoscopic Workshop	Urology
June 29, 2005	The Thin Prep Pap Test Challenge	Pathology

# Site-Specific Reports

## Breast Cancer

Breast cancer is the most common cancer seen in female patients with cancer at Stony Brook University Hospital annually, exceeding other female cancer sites by a significant percentage. Breast cancer is the most frequently diagnosed cancer in women. An estimated 211,240 new cases of invasive breast cancer will be diagnosed in women in the US in 2005 according to the American Cancer Society's 2005 report.

There were 427 cases of breast cancer first encountered at Stony Brook University Hospital (SBUH) in 2004. Of those, 353 were first diagnosed and/or received their first course of treatment at Stony Brook. Seventy-four were first seen with recurrence or re-treatment. We compared 2004 new breast cancer patients with breast cancer patients first seen at the hospital in 2003, and with National Cancer Data Base (NCDB) benchmark data on patient characteristics at the time of diagnosis, including age, stage, and ethnicity. We also looked at the type of surgery received in the first course of treatment. Overall the patient population at Stony Brook is similar to that from the NCDB.

Although the race mix is generally similar, the comparison demonstrated there were 7% fewer minorities

seen in 2004 than the national benchmark. This data provided an opportunity to assess our experience and review our current outreach programs to underserved communities.

The age 50-59 is the highest age group at diagnosis at SBUH and NCDB. Our survey found that 31.5% of cases managed here were less than age 50 at diagnosis compared to 22% in the NCDB population. As we have younger patients (age < 50) diagnosed with breast cancer, the younger population have available to them support services which includes genetic counseling at Stony Brook University Hospital.

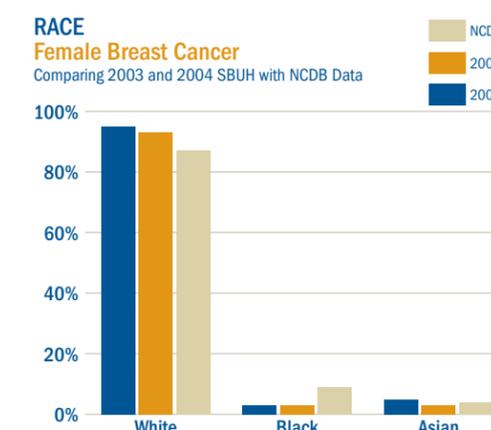
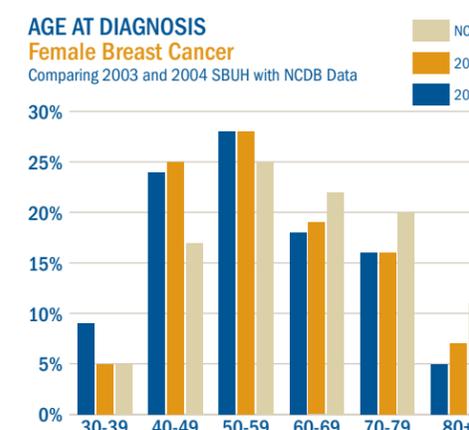
Greater than half were first diagnosed at an early stage, 24% in-situ and 37% Stage 1, compared to the NCDB benchmark of 17% and 40%. This reflects the emphasis on

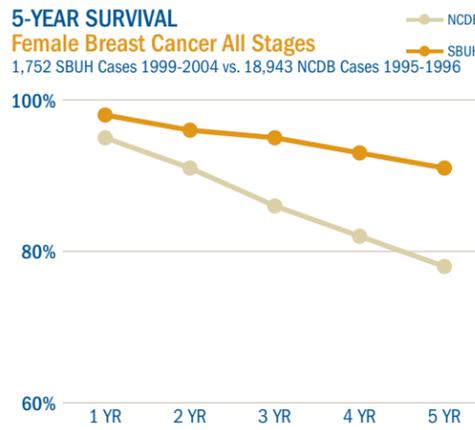
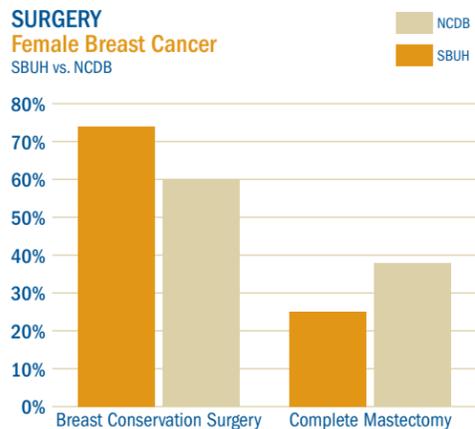
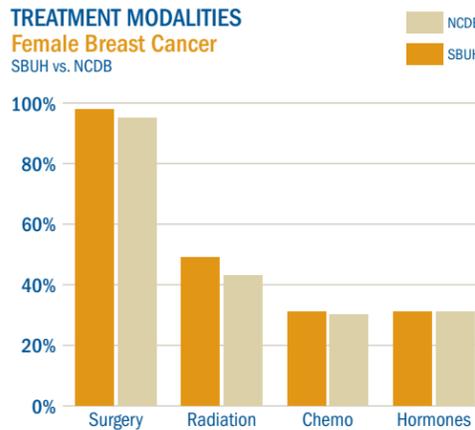
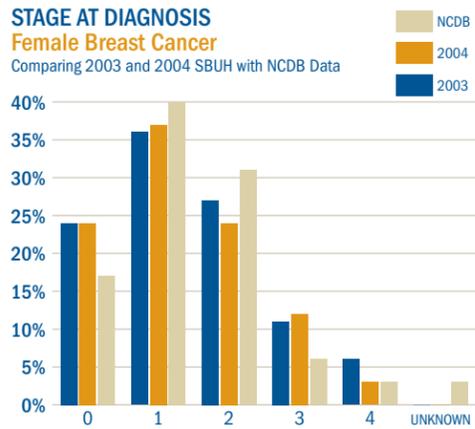
screening mammography for early diagnosis in patient and community education.

Modalities utilized most frequently in the management of breast cancer are surgery, radiation therapy, chemotherapy and hormone therapy. Multidisciplinary management and breast conservation surgery are a priority at the Stony Brook University Hospital Breast Care Center.

Seventy-four percent of our patients diagnosed with breast cancer have undergone breast preservation as an alternative to mastectomy, and were treated with multidisciplinary conservative management in 2004. Our current lifetime patient follow-up rate for outcome evaluation is 92% successful. Five-year survival at SBUH remains excellent at 91% vs. the 78% NCDB benchmark.

Survey prepared by Brian O'Hea, MD, Surgical Oncology, director, Breast Care Center; and Vincine Kelly, CTR, Cancer Registry Department.





## Bladder Cancer

According to the American Cancer Society, there will be an estimated 63,210 new cases of bladder cancer expected to occur in 2005. Bladder cancer is the fourth most common malignancy affecting American men and the ninth most common malignancy affecting American women. Bladder cancer incidence rates among men and women combined leveled off from 1986 to 2001, after increasing by 0.7% per year from 1975 to 1986. Overall, bladder cancer incidence is about four times higher in men than in women and two times higher in whites than African Americans. An estimated 13,180 deaths from bladder cancer will occur in 2005.

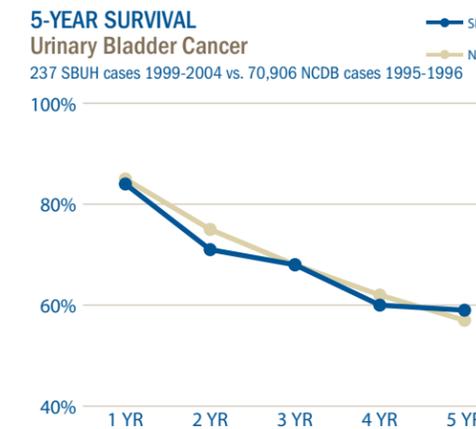
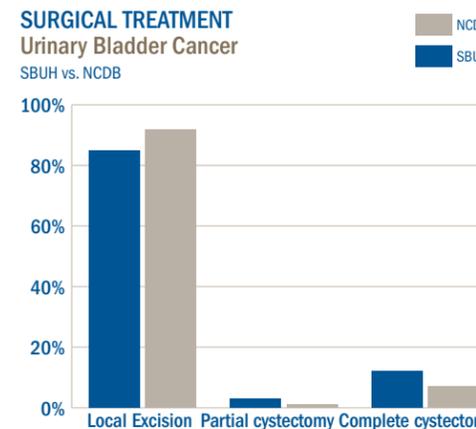
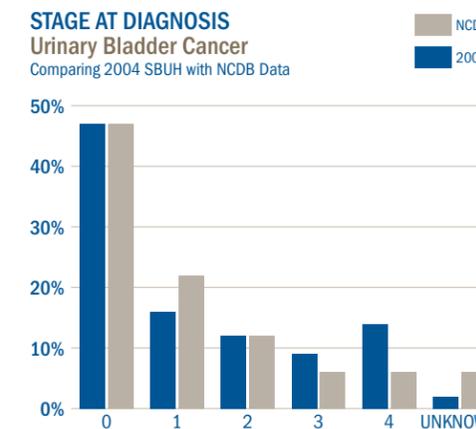
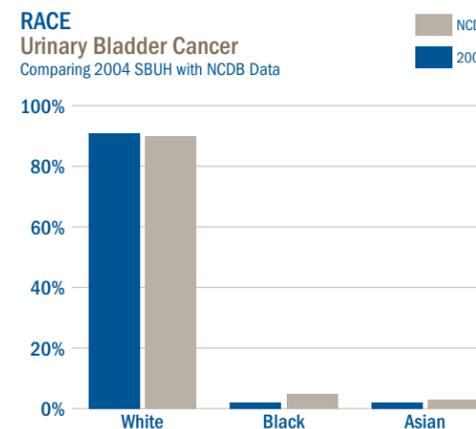
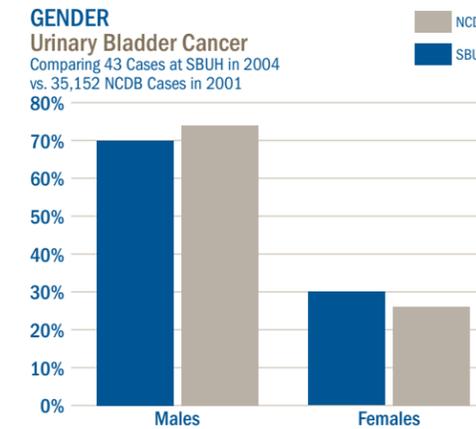
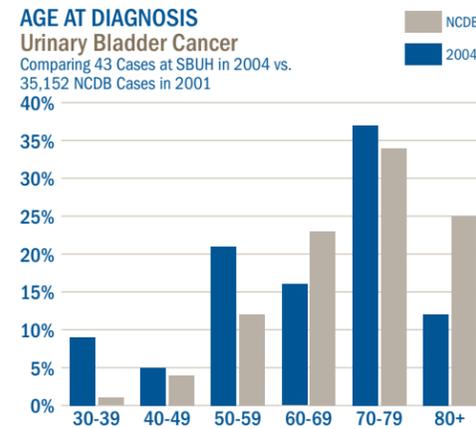
The most common risk factor for bladder cancer is cigarette smoking and is found in at least 50% of cases. Cigarette smoking increases the risk of developing bladder cancer by two to four times. Cessation of cigarette smoking and increasing fluid intake may decrease the risk of developing bladder cancer. Other risk factors include exposure to aniline dyes and benzene as well as a history of previous pelvic irradiation. Bladder cancer is rarely silent and usually presents with symptoms. These symptoms include hematuria as well as urinary urgency and frequency.

Stony Brook specialists provide diagnosis, treatment and follow-up programs for patients with bladder cancer. Cystoscopy is the mainstay of diagnosis. Bladder cancers, especially if they are superficial, may be treated via cystoscopic resection. Further treatment is determined by the stage and grade of the cancer. Patients may be treated with chemotherapy or immunotherapy placed directly into the urinary bladder. Patients with muscle-invasive cancer may be candidates for surgical removal of the bladder with creation of a neo-bladder from a segment of intestine. Select patients may be candidates for a partial cystectomy provided the tumor is confined to one area of the bladder. For all patients, early diagnosis is important as this may allow more successful treatment. With better diagnosis and improved treatment, survival for bladder cancer patients has improved from 73% to 82% from 1974 to 2000.

There were 64 cases of bladder cancer first encountered at Stony Brook University Hospital (SBUH) in 2004. Forty-three were newly diagnosed and treated and 18 had recurrence or re-treatment. Statistics on age, gender, stage, race, surgical treatment and survival was compared with the National Cancer Data Base

(NCDB) benchmarks. Seventy percent of our patients were male and 30% female, compared to 74% male and 26% female NCDB cases. A larger proportion of patients treated here were younger than the national average at diagnosis. Twenty-five percent were age 59 or younger at diagnosis at SBUH, compared to 17% in the NCDB. Representation of minority patients at SBUH was 4% less than benchmark data. Distribution of AJCC TNM stage at diagnosis mirrored benchmark data for non-invasive bladder cancer case, with both SBUH and NCDB showing 47% of newly diagnosed patients having in-situ stage bladder carcinoma at diagnosis. SBUH recorded 14% of patients with Stage 4 at diagnosis, compared to 6% nationally, and demonstrated fewer with unknown stage by 4%. Twelve percent were treated with total complete cystectomy compared to 7% in the NCDB. Five-year survival at SBUH closely mirrored the NCDB benchmark data at 59% vs. 57%.

Survey prepared by Howard Adler, MD, Department of Urology and Vincine Kelly, CTR, Cancer Registry Department.



# Cancer Statistics

## CANCER STATISTICS AT STONY BROOK UNIVERSITY HOSPITAL, STONY BROOK, NY

Cancer Site Distribution in 2004 by Case Type, Sex and TNM Stage

PRIMARY SITE 2004	TOTAL	Patient Type		Gender		Stage Groups						
		New	Re-tx	Male	Female	0	I	II	III	IV	Unk	N/A
ALL SITES	2310	1817	493	950	1360	161	543	394	257	305	311	339
ORAL CAVITY	61	54	7	43	18	2	6	7	11	23	11	1
Lip	3	2	1	2	1	0	0	0	1	0	2	0
Tongue	18	16	2	14	4	2	1	1	4	7	3	
Oropharynx	1	1	0	1	0	0	0	0	1	0	0	0
Hypopharynx	4	4	0	3	1	0	0	0	2	1	1	0
Other	35	31	4	23	12	0	5	6	3	15	5	1
DIGESTIVE SYSTEM	246	181	65	133	113	5	41	36	43	65	54	2
Esophagus	23	17	6	21	2	0	0	4	7	6	6	0
Stomach	30	20	10	20	10	0	8	3	2	7	10	0
Colon	75	52	23	34	41	1	18	9	10	22	15	0
Rectum	42	34	8	24	18	0	8	8	15	5	5	1
Anal Canal	9	5	4	2	7	4	1	2	0	0	2	0
Liver	19	15	4	11	8	0	2	6	2	2	7	0
Pancreas	35	26	9	14	21	0	3	2	3	20	7	0
Other Gastrointestinal	13	12	1	7	6	0	1	2	4	3	2	1
RESPIRATORY SYSTEM	291	225	66	153	138	1	62	28	60	109	30	1
Nasal/Sinus	2	2	0	2	0	0	0	1	0	1	0	0
Larynx	32	24	8	24	8	1	6	6	3	13	3	0
Lung	253	196	57	125	128	0	54	21	57	95	25	1
Other Respiratory	4	3	1	2	2	0	2	0	0	0	2	0
BLOOD & BONE MARROW	107	70	37	63	44	0	1	0	0	0	1	105
Leukemia	59	44	15	33	26	0	0	0	0	0	0	59
Multiple Myeloma	26	16	10	20	6	0	1	0	0	0	0	25
Other Hematopoietic	22	10	12	10	12	0	0	0	0	0	1	21
BONE	6	4	2	4	2	0	0	1	0	2	2	1
CONNECT/SOFT TISSUE	23	21	2	8	15	0	10	1	0	4	7	1
SKIN	88	73	15	53	35	15	40	11	3	4	15	0
Melanoma	80	67	13	49	31	15	39	10	3	4	9	0
Other skin	8	6	2	4	4	0	1	1	0	0	6	0
BREAST	427	353	74	1	426	90	146	97	42	14	38	0
FEMALE GENITAL	266	228	38	0	266	30	89	24	51	20	45	7
Cervix Uteri	42	41	1	0	42	12	8	8	6	3	5	0
Endometrium	106	94	12	0	106	0	62	10	17	8	7	2
Ovary	86	66	20	0	86	0	14	4	25	8	30	5
Vulva	21	16	5	0	21	14	3	2	0	0	2	0
Other Female Genital	11	11	0	0	11	4	2	0	3	1	1	0
MALE GENITAL	226	160	66	226	0	1	10	163	8	9	34	1
Prostate	211	146	65	211	0	0	0	163	8	8	32	0
Testis	12	11	1	12	0	1	9	0	0	0	2	0
Other Male Genital	3	3	0	3	0	0	1	0	0	1	0	1
URINARY SYSTEM	110	79	31	73	37	17	22	7	8	24	32	0
Urinary Bladder	61	43	18	40	21	17	8	5	5	9	17	0
Kidney	49	36	13	33	16	0	14	2	3	15	15	0
BRAIN & CNS	134	112	22	64	70	0	0	0	0	0	0	134
Brain (Benign)	11	10	1	5	6	0	0	0	0	0	0	11
Brain (Malignant)	45	38	7	26	19	0	0	0	0	0	0	45
Other CNS	78	64	14	33	45	0	0	0	0	0	0	78
ENDOCRINE	163	140	23	46	117	0	87	5	15	13	4	39
Thyroid	124	107	17	30	94	0	87	5	15	13	4	0
Other Endocrine	39	33	6	16	23	0	0	0	0	0	0	39
LYMPHATIC SYSTEM	113	78	35	61	52	0	29	14	13	16	34	7
Hodgkins Lymphoma	18	13	5	9	9	0	5	4	2	0	7	0
Non-Hodgkins Lymphoma	95	65	30	52	43	0	24	10	11	16	27	7
UNKNOWN PRIMARY	35	27	8	17	18	0	0	0	0	0	0	35
OTHER/ILL-DEFINED	14	12	2	5	9	0	0	0	3	2	4	5

This report includes in-situ cervix and intraepithelial neoplasia cases

# The Cancer Committee

The Cancer Committee is the designated multidisciplinary body for the review of cancer care services at Stony Brook University Hospital. It plays a vital role as an administrative advisory committee in the oversight and development of Stony Brook's cancer services. Theodore Gabig, MD, was appointed committee chair in 2005.

The Committee is comprised of physician representatives from the medical, surgical and diagnostic clinical areas with representatives from supporting departments involved with the care of patients with cancer. Cancer Committee recommendations are made directly to the hospital's Medical Board and impact the direction of the cancer program.

Theodore Gabig, MD	Medical Oncology/Hematology Committee Chair
Howard Adler, MD	Urologic Oncology
Teresa Beutel	Healthcare Teleservices
Sabra Boughton, NP, PhD	Patient Education
Rose Cardin, RN	Nursing Administration
Eva Chalas, MD	GYN/Oncology Leadership Council
Antoinette Forster, NP	Palliative Care
Jeannie Gaspard, RN	Oncology Nursing
William Greene, MD	Quality Management
Loretta Gvazdinskas	Hospital Administration
Patricia Hentschel, NP	Clinical Trials
Youjun Hu, MD	Pathology
Martin Karpeh, MD	Surgical Oncology
Vencine Kelly, CTR	Cancer Registry
John Kovach, MD	Long Island Cancer Center Director
Stefan Madajewicz, MD	Medical Oncology
Seth Mankes, MD	Diagnostic Radiology
JoAnn McCaslin, LCSW	Social Work
Robert Parker, MD	Pediatric Oncology
Jedan Phillips, MD	Family Medicine/ ACOS Liaison Physician
Charles Robbins, DSW	Social Work
Maisie Shindo, MD	ENT Surgery
Lori Tischler, RN	Cancer Helpline
Cathy Tuppo, RPT	Physical Medicine & Rehabilitation
Scot Weber, RPH	Pharmacy
Tamara Weiss, MD	Radiation Oncology

## Contact Numbers

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

Cancer Helpline	800.862.2215	Lung Cancer Evaluation Center	444.2981
Cancer Registry	444.9844	Neurosurgical Oncology	444.1210
Carol M. Baldwin Breast Care Center	444.4550	Nursing	444.2780
Chaplaincy	444.8157	Nutritional Services	444.1441
Chemotherapy Pharmacy	444.2318	Pain Service	444.4234
Child Life Program	444.3840	Patient Education Services	444.5263
Dermatology	444.3843	Pediatric Oncology	444.7720
Diagnostic Radiology	444.2424	Physical and Lymphedema Therapy	444.4240
Gynecologic Oncology	444.9416	Preventive Medicine	444.2190
Head and Neck Oncology	444.3993	Radiation Oncology	444.2200
HealthConnect®	444.4000	Social Work Services	444.2552
Hematology/Oncology	444.1727	Surgical Oncology	444.1793
Long Island Cancer Center	444.9340	Urologic Oncology	444.6282

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