Image Is Everything in Radiation Oncology

Also inside:
Vascular Institute
Pediatric Patient Simulator
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Campaigns and Construction
When the Gagnon Heart Hospital opens its doors next fall, the Vascular Institute will be one of its major components. Institute physicians and surgeons will offer medical therapy for poor circulation to the lower extremities, brain, and heart, as well as careful follow-up of hypertension and other specialty care — all of which will ease the treatment of vascular disease.

Today, less invasive endovascular procedures using angioplasty, stents, and specialized devices have replaced many traditionally open operations. The Institute will be equipped to provide support for these innovative procedures in one of its four state-of-the-art interventional suites. The Wound Care Center will focus on lower extremity wounds due to arterial and venous circulatory impairments, while important physiological tests will be performed in the Institute’s Non-Invasive Vascular Laboratory. Best of all, patients can expect an examination, confirmed diagnosis, and treatment plan in just one consultation.

The prevalence of vascular disease cannot be underestimated. Lower extremity peripheral vascular disease (PVD) is present in 12 to 29 percent of the elderly. Poor circulation and cramping do not simply impair quality of life; individuals with PVD suffer a five-fold increased risk of heart attack and a two- to three-fold increased incidence of stroke and death. Aortic aneurysm disease, which is characterized by a bulge in the aorta, is common in both men and women. Yet, 50 percent of patients are unaware that they have an aneurysm unless it ruptures, resulting in severe pain, bleeding, and often death. In fact, the rupture of abdominal aortic aneurysms constitutes the 10th leading cause of death among men in the United States. Repair of aneurysms using stent-grafts inserted into the body from arteries in the lower extremity has revolutionized management of this disease. Our surgeons in the Vascular Institute have been leaders in this field and are now engaged in clinical research projects for treatment of abdominal and thoracic aneurysms.

Stroke is the third leading cause of death in the United States and the leading cause of disability among elderly Americans. Approximately 700,000 new strokes occur annually and 20 to 30 percent are related to atherosclerotic disease in the carotid arteries. Traditionally, to open flow through the carotid arteries, surgeons performed an open operation called carotid endarterectomy, removing the plaque under local or general anesthesia. A more recent innovation, which is potentially less invasive, is carotid angioplasty and stenting. The narrowed carotid artery is opened with a balloon, and a stent is placed to hold the artery open. A filter protects the brain by allowing blood to flow while trapping debris released during the procedure.

To evaluate this technique as it compares to traditional surgery, the National Institutes of Health has funded the Carotid Revascularization Endarterectomy vs. Stent Trial (CREST). I am the principal investigator of the trial, which will ultimately recruit 2,500 patients from 125 clinical sites throughout North America, including Morristown Memorial. The CREST study will provide guidance for physicians in reviewing diagnostic studies and choosing the best course of treatment for their patients.

Clinical research studies are also underway on stroke prevention, funded by the Neurology Institute of Neurological Disorder and Stroke (NINDS); on lower extremity peripheral arterial disease (PAD); and on methods of improving carotid artery stenting. This research leads to new therapeutic options and is vitally important to the Institute and our patients.
Grateful to William Dowling, MD, for her successful hip replacement surgery, Barbara Irwin asked the orthopedic department chairperson for a wish list that would make his work easier and help nurses and patients. “I like to give what the hospital could really use,” says the New Vernon resident. Her gift of over $48,000 has helped equip the new Orthopedic/Surgical Trauma Stepdown Unit with special motorized beds that offer comfort, turning assistance, and the ability to transport patients easily. The beds are also outfitted with high tech oxygen and IV pump systems.

“The new beds have already contributed to a decrease in the development of bed sores,” says Dr. Dowling, medical director of Atlantic Orthopedic Services. “They’ve made it easier for total hip and total knee replacement patients to get in and out of bed safely, and they’ve saved the nursing staff back injuries and strains because of their versatility.”

“Body Double Comes to Pediatrics”

Dylan does everything your six-year-old would do, except track mud through the house. But he has one critical function — training new physicians and nurses on how best to care for a pediatric patient before your child comes through the door. Thanks to the generosity of Richard and Kimberly Carolan of Bernardsville, Goryeb Children’s Hospital will soon welcome PediaSIM Dylan, a portable patient simulator created by Medical Education Technologies, Inc. This remarkable re-creation of a child, with tears and voice, working ‘lungs’ and beating ‘heart,’ and even urinary output, generates realistic and automatic responses to clinical interventions and drug administrations.

“In the same way that simulators have changed the way airline pilots are trained, tested, and maintain their skills, medical simulators will make patient care, particularly in acute, life-threatening situations, a safer process with better results,” explains Juan Gutierrez, MD, director of pediatric critical care.
Spend an hour with James R. Wong, MD, learning about radiation therapy at the Carol G. Simon Cancer Center, and you find yourself marveling at the sheer ingenuity at work in his department. Certainly you understand why patients are beating a path to his door.

Dr. Wong’s research fellow Zhanrong (Jeff) Gao, a PhD physicist, summed it up succinctly when he asked, within weeks of his arrival from Canada, “How come we’re so ahead of everybody else?” The answer is largely because Dr. Wong is one tenacious man.

“We want to change the way radiation therapy is delivered in the world,” says the Radiation Oncology chairperson who has been fine-tuning the department’s treatment techniques for over 10 years. His persistence, along with rapid advances in computer technology, has resulted in an ever-improving method of image-guided radiation therapy (IGRT) using computed tomography (CT) scans. This quick and incredibly precise therapy targets tumors in the prostate, brain, lung and liver and causes fewer complications than traditional methods.

With prostate cancer patients, for example, “There’s much less scattered radiation to the bladder and rectum so patients have minimal urinary side effects, and diarrhea has practically disappeared throughout the course of treatment,” says Dr. Wong. A few decades ago, radiotherapy meant bombarding tumors within a simple geometric-shaped field with a constant intensity of radiation. Evolving technologies have allowed radiation oncologists to shape the beam more precisely around tumors and deliver radiation in varying intensities. But pinpointing where the tumor is at the time of treatment has remained a challenge, with different medical centers using different approaches.

Traditionally, a tumor’s location has been delineated by tattoo marks on the skin. However, with the loosening of skin as one ages and the constant shifting of a tumor’s position, a portion of the tumor could easily be missed during treatment. For example, when a prostate cancer patient is undergoing a course of radiation treatment that requires 40 sessions, the prostate changes position frequently as the adjacent bladder and rectum fill and empty. The conventional approach has been to recheck the treatment location weekly with x-rays. But because x-rays only check bony landmarks and not the precise location of the tumor, they can only outline a general area for treatment. Thus, radiation oncologists must target a much larger radiation area or volume than what is required — hardly the ideal since the objective is to minimize risk to healthy tissue and organs.

“If the spinal cord receives too much radiation, the patient could be paralyzed. If the heart gets too much, the patient could have heart failure,” explains Dr. Wong. “That’s why you need to minimize the risk.”

In 2000, the Department of Radiation Oncology began using a new device created by Siemens Medical Solutions that combined the vivid three-dimensional images of a CT scanner with a linear accelerator that delivers the
radiation beam. The approach drew considerable attention internationally for its accuracy and the clarity of images. CT scan diagnostics can show the changing shape and location of the tumor and surrounding organs immediately before treatment, so that therapists can adjust the radiation beam accordingly. Unfortunately, it took a highly trained group of physicians, physicists and therapists 45 minutes to plot the location of the organ at risk so that treatment could begin. In short, it was highly impractical.

"People must have thought, ‘That Morristown team is being foolhardy in its pursuit of excellence,’” recalls Dr. Wong. "But computer technology bailed us out."

After some new software cut that plotting time in half, Dr. Wong began brainstorming for something even better. "I thought, 'If a computer can recognize your palm print and your iris, why not your prostate?'" Why not indeed?

This past year, with computer software plotting organ location during treatment and taking just three minutes to do so, what once was impractical has become much sought after. Obese patients, in particular, seek out Dr. Wong after being turned away by programs whose alternative therapies cannot capture a clear image of their tumors. The department’s three radiation oncologists, Drs. Wong, Timothy H. Chen, and Mona K. El-Gabry, are treating nearly 90 patients a day — an extraordinary feat when compared with other centers that have twice the number of radiation oncologists yet are treating only two-thirds the patients.

“We have staff equivalent to a community hospital but academic research and treatments comparable to a major academic center,” Dr. Wong says. “We are very proud of this achievement.”

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“The level of expertise Dr. Wong brings to our institution is at the national and international level,” says Oncology Service Line Director Lydia Tarta, RN. “There are few programs in the state that garner the attention his does.” This past fall, Dr. Wong and several colleagues were invited to prestigious conferences in California and Barcelona, Spain, to present their work to radiation oncology specialists from around the world.

The department chair has also attracted donor support from James and Christine Kenney of Morristown and Frank and Mimi Walsh, who have residences in Morristown and Florida. "I’m impressed with what he’s done for others and grateful for what he’s done for me,” says Mr. Walsh, a former patient. “It’s a very caring, professional, and well-trained department he heads, and I’m convinced his technique in radiation oncology is state of the art.”

Mr. Kenney, whose father-in-law and uncle had been Dr. Wong’s patients, was also wowed by the department’s advances. “His new technology is so accurate, and he’s doing such interesting work. We were happy to support him.”

Never one to rest on his laurels, Dr. Wong is now pursuing new software that will give radiation oncologists the ability to recalculate radiation doses immediately when a tumor is shown to have shrunk during treatment. He’s also seeking to incorporate artificial intelligence into the treatment process, having multiple computers search out and destroy malignancies while avoiding healthy organs. And he hopes to obtain $1 million in funding to purchase a robotic table that would provide the freedom of movement needed to advance to that next stage.

Anything is possible, he says, “Like society, radiation oncology has been transformed by computers. Sometimes it still shocks me that, in the early 1990s, when I was just out of my residency, all of this was just an idea. It didn’t exist.”
Morristown Memorial has been able to bring the most innovative care to its patients these many years because of the confidence and support of far-sighted donors. Selective Insurance Group of Branchville is one of those donors with vision. While encouraging its 2,100 employees to be community-minded, Selective has led the way, committing $100,000 to the Campaign for the Heart just as it did in a previous campaign for the Carol G. Simon Cancer Center.

“Based on the outcome of previous campaigns, we know our dollars will be well spent, and that both our employees and the community will benefit greatly,” says Sharon Cooper, senior vice president and chief marketing and communications officer for Selective. “Morristown Memorial is an exceptional resource. We are sincerely thankful for the critical care provided by so many wonderful doctors and nurses when our employees needed it most.”

A holding company for seven property and casualty insurance companies, Selective has been named to the 2007 Forbes Magazine “Best Big Companies in America” list, to the FORTUNE magazine 1,000 list, and to the Ward Group’s 50 top-performing companies in the P&C insurance sector.

### Gagnon Heart Hospital

Generous donors and enthusiastic volunteers have brought The Campaign for the Heart to $43.8 million at press time. Confident that the $44 million campaign goal will be reached by spring, the Health Foundation has scheduled a victory celebration for April 24, 2008, during the 1892 Founders Society 17th Annual Chairman’s Dinner.

Plumbers, electricians, and carpenters continue to transform the interior of the 240,000 square-foot Gagnon Heart Hospital, intent on a grand opening and dedication this fall. The $130 million building will be technologically advanced and patient friendly, bringing testing, treatment, recovery, and rehabilitation areas under one roof and blending functionality and comfort in its private patient rooms. (See page 2 in this issue to hear about the hospital’s new Vascular Institute, headed by Robert W. Hobson II, MD, who joined Atlantic Health in the fall.)

### Sam’s NICU

The relocated and expanded Neonatal Intensive Care Unit (NICU), affectionately named Sam’s NICU in memory of Samantha Marie Salzberg, will also open its doors this coming fall. The $15 million project will triple the size of our existing unit and make it more baby and family friendly. Donors have embraced the new unit’s concept of private rooms rather than a centralized ward, bringing fund-raising totals to $5.1 million at press time.

As the construction and campaign continue, much is being done to advance neonatal care at Morristown Memorial, according to Director of Neonatal Research and Academic Affairs Augusto Sola, MD. The new Atlantic Neonatal Research Institute has been organized, the NICU Research Lab has opened, and a conference on controversial issues in neonatal care, hosting national and international speakers, has been scheduled for May 30, 2008. Two clinical trials are also in progress. One is part of a national trial on preventing heat loss in extremely premature infants and the other is our own investigator-initiated trial seeking to prevent brain injury in premature babies through the use of a synthetic hormone.

### Sample Rate Chart for a $25,000 Gift Annuity on One Person

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*Deduction will vary slightly with changes in the IRS Discount Rate. Assumed rate 6.2%.

### Selective Insurance Backs Heart Hospital Campaign

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“It was a horrible situation, but it was as good as a horrible situation could be,” says Peter Grimm, who credits family, friends, and the Carol G. Simon Cancer Center team, particularly Kenneth Adler, MD, with easing his wife Leslie’s ordeal in battling lung cancer. “Ken has a unique ability to make every patient feel he or she is the only one he’s taking care of. He kept Leslie protected from the reality and me clued in to what the facts were. I think that’s a darn good combination.”

Grateful for that care, the late Mendham resident wanted to return the kindness by helping others in her situation. Her husband and sons Peter Jr. and Brian honored her wishes by establishing the Leslie Grimm Lung Cancer Patient and Family Support Program. Funded by the Grimms, with added contributions from her memorial fund, the program will employ a full-time licensed social worker to help patients and families cope with the stresses of lung cancer; currently 250 patients have been diagnosed and are being treated for the disease. The social worker, who will be trained in integrative medicine techniques, will provide individualized support and services depending on the patients’ needs.

The program will include expanded support groups for patients, separate support groups for families, and guest speakers on topics of interest. The social worker will also design a Patient and Family Education Guide that includes details on lung cancer, treatments, tests, and services available, and allows patients to track their medication and nutritional information, access contact numbers of the clinical team, and maintain a personal diary if they choose.

The Grimm family and the medical team have agreed upon a set of measures to evaluate the program over the next two years. If it proves effective, Mr. Grimm says, the family hopes to fund it in perpetuity.

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**Fall Happenings**

**Donors Briefed on Vascular Advances**

The 2nd Annual Jefferson Associates Reception, held November 8 at The Madison Hotel, recognized the generosity of donors contributing $1,000 to $2,499 to Morristown Memorial Health Foundation. During the event, Michael Resnikoff, MD, a vascular surgeon, presented the latest techniques for treating stroke and reviewed other non-invasive vascular procedures, while Joanne Conroy, MD, executive vice president, Atlantic Health, and chief operating officer, Morristown Memorial, discussed the hospital’s current and future plans. Pictured (l-r) William and Mary Blanchard, Julia Peet and Jim Quinn, chief development officer, Health Foundation.

**Taking Myra’s Lead**

A luncheon at Rod’s 1890’s Restaurant, October 9, honored members of the Brookfield Society, named for Myra Brookfield whose bequest of her home in 1892 created Morristown Memorial Hospital. Today’s members have included the hospital in their estate plans, made a gift of real estate, created a life-income gift or retained life estate, or have given a life insurance policy to benefit the hospital. Addressing the group is William D. Bruen, Jr., Brookfield Society chairperson and Health Foundation trustee.

**Targeting the Overfed and Under-Exercised**

Former Arkansas governor and 2008 presidential candidate Mike Huckabee noted the downside to prosperity at the 15th Annual Wellness Lecture, November 1, when he told the 300 attendees that Americans are “victims of our own success … overfed and under-exercised.” The author of *Quit Digging Your Grave with a Knife and Fork* discussed the increase of chronic diseases from unhealthy lifestyles and his own dramatic turnaround after being diagnosed with Type II diabetes several years ago and given 10 years to live. He is pictured with Richard P. Oths, former president and CEO of Atlantic Health (left) and Susan Zolandz, RN, nurse educator, Community Health.
Mansion in May Finds ‘Happy Home’

The Women’s Association of Morristown Memorial Hospital, which just contributed $1 million toward the expansion of the NICU, is already at work on their signature fundraiser, the 14th Mansion in May, proceeds of which will expand pediatric oncology services at the Valerie Fund Children’s Center at Goryeb Children’s Hospital. This year’s designer show house is Froh Heim, former home of mining industrialist Evander B. Schley, in Far Hills. The circa-1923 Spanish-style stone and stucco house, whose name means “happy home” in German, will be transformed by 50 top interior designers and landscape architects from the metropolitan area. For information on the month-long event, visit www.MansioninMay.com.

CORRECTION: The 2006 Report on Gifts should have included the gift from William, Brian and Paige Leonard in memory of Annie B. Catlin. Our sincerest apologies.