Summer 2016

The Beam:
Radiation Medicine News

Clinical advances — what's new in Radiation Medicine at Northwell Health

Inside

Referrals for Radiation Medicine, please call **(855) 927-6622**

More choices mean better care:

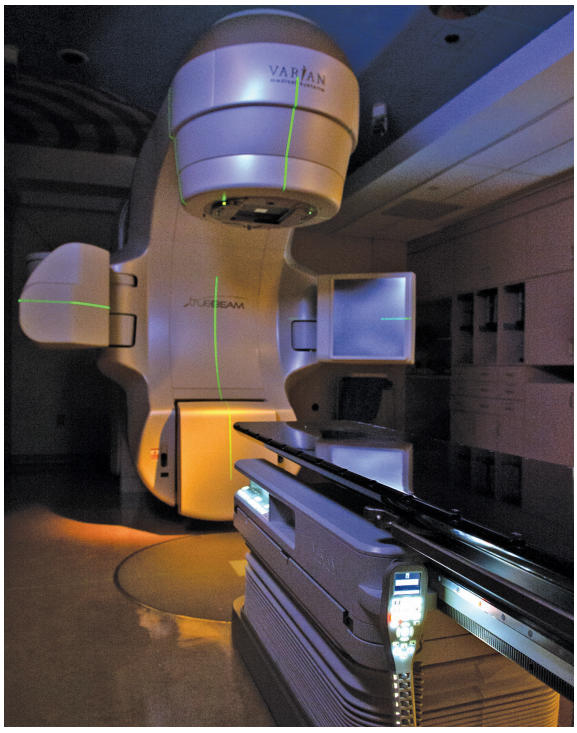
Stereotactic body radiation therapy for prostate cancer patients

SBRT (stereotactic body radiotherapy) is a technique that uses the linear accelerator to deliver high doses of radiation per treatment to a tumor or target thus decreasing the number of treatments to days instead of weeks of daily therapy. This approach is used for many types of cancer, but specifically for tumors that are well localized and generally small.

Despite being marketed as a standard of care for prostate cancer, SBRT remains without level-one evidence comparing it to other types of radiation or surgery for treating prostate cancer. Yet, prospective studies suggest efficacy similar to other treatment modalities for prostate cancer. Its short treatment course makes this approach attractive to patients.

The Department of Radiation Medicine has employed SBRT for prostate cancer patients as part of an IRB clinical trial to help establish the best and safest dose of radiation with this technique. We have recently completed accrual to this study and await the results.

Continues on page 2



Varian TrueBeam Radiosurgery Linear Accelerator

Northwell Health℠

Cancer Institute

Proton Beam Therapy:

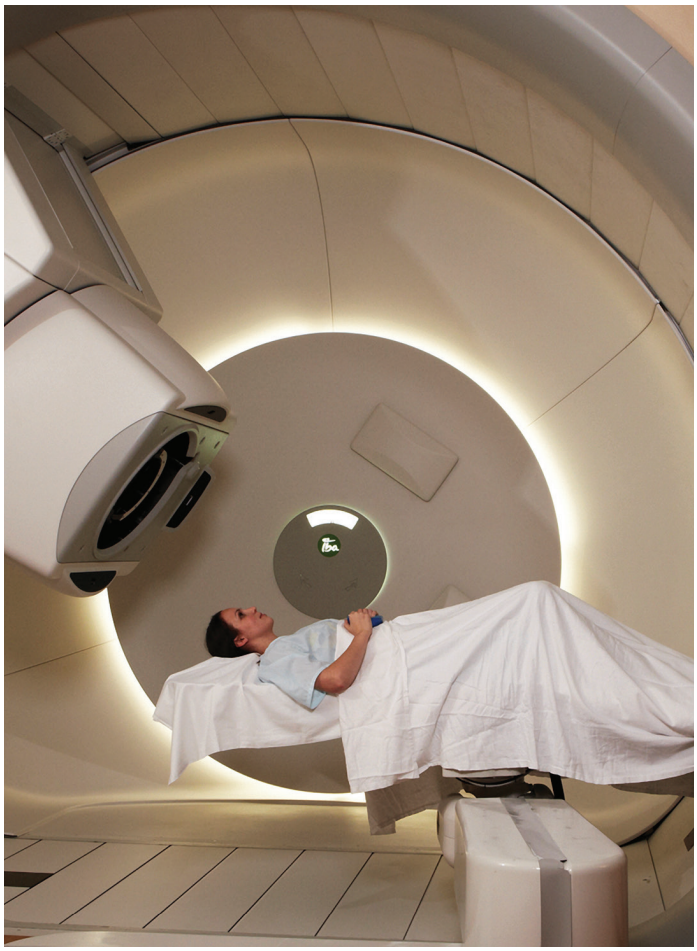
New form of precision radiation available for patients through partnership

Particle therapy using protons has been around for many years with demonstrated efficacy in select cancers. The Department of Radiation Medicine is happy to announce that we have established a relationship with ProCure Proton Therapy Center in Somerset, NJ. This arrangement will offer Northwell Health patients access to proton radiotherapy, a unique form of precision radiation.

"We strive to offer the highest quality and best care to our patients, and this opportunity is consistent with our mission to provide our patients access to the highest standard of radiation oncology care," says Louis Potters, MD, Chairman of the Department of Radiation Medicine.

Using a charged particle rather than an X-ray, proton radiation therapy has unique properties that allow it to decrease radiation dose to nearby normal tissue while maintaining high doses to the tumor. While this technology has been found to be most useful in the treatment of pediatric malignancies, it can be used for various other malignancies including in the brain, head and neck, breast, and spine, among others. Physicians in radiation medicine will now be able to select patients that may benefit from this technology, and offer treatment at the facility in Somerset, NJ, under our care.

The Department of Radiation Medicine at Northwell Health continues to be a leader in providing personalized treatment options for our patients, offering a unique combination of modern technology, physician expertise, and clinical trials. We are excited to add proton radiation therapy to our extensive range of technology including CyberKnife®, Gamma Knife®, Radiosurgery Varian TrueBeam™, and Tomo Therapy®, among others.



Continued from Cover Story

The safety of SBRT is related to two factors: the accuracy of the treatment beam and the speed with which it's delivered. Using Varian's TrueBeam linear accelerator, treatment times are only 120 seconds compared to other technologies or robots that require 35 or more minutes to deliver the same radiation dose. In addition, we utilize Calypso markers, like GPS for the prostate that tracks the prostate's position for the entire 120 seconds of care. Any motion that may occur is immediately identified and the beam instantly shuts down until the patient is repositioned.

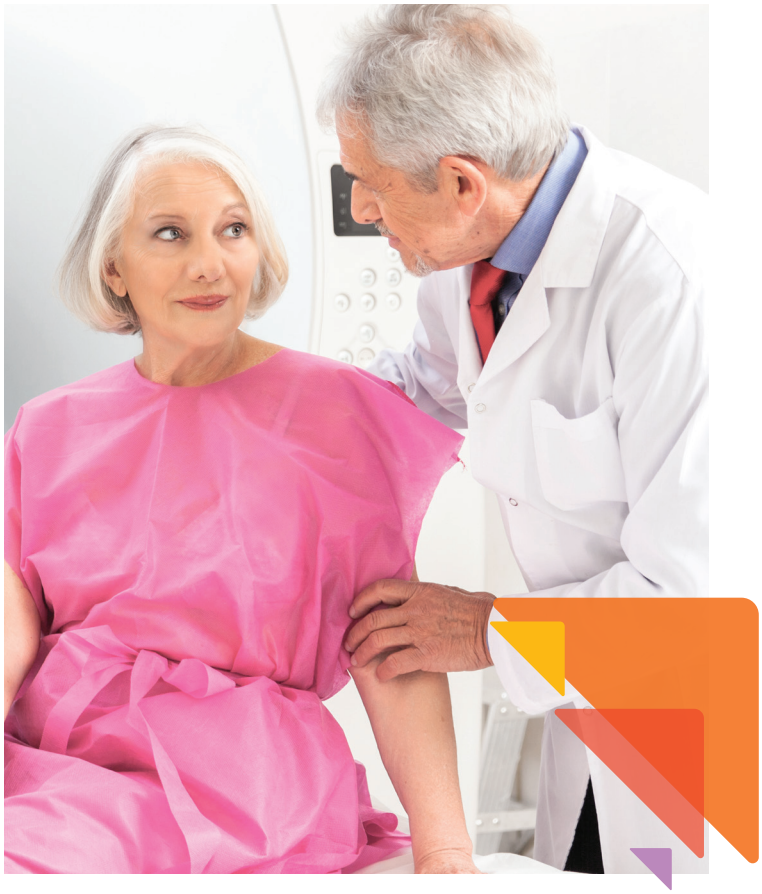
Despite the excitement for SBRT, patients diagnosed with prostate cancer continue to face tough decisions and challenges. Many cancer treatment facilities aggressively market SBRT while minimizing (or being unable to provide) other proven and essential treatment options, including robotic prostatectomy, radioactive seed implantation (brachytherapy), hypofractionated radiation therapy, or active surveillance. In the Department of Radiation Medicine, we believe every patient and every cancer is different and therefore requires a personalized treatment plan, selecting the most appropriate approach and technology. We have all the tools available for our physicians to select the best approach for each patient and we take pride in not offering a one-size-fits-all solution for men with prostate cancer.

Not all breast radiation therapy is the same:

Use of AlignRt and DIBH

At a time when most hospitals in the country are treating breast cancer patients with five to six weeks or more of radiation therapy, the Department of Radiation Medicine at Northwell Health has been treating most of our patients with hypofractionation – fewer treatments over three to four weeks. Based on randomized clinical trials, the highest level of evidence, it has been determined that most women can have their treatment times condensed with equal efficacy and no additional toxicity.

When treating the left breast, there is concern that the heart can be exposed to some radiation. Data suggests that this exposure may be associated with coronary artery disease. Therefore, it is vital to employ treatment techniques that avoid the heart but also do not miss the breast. One way is to treat the patient in the prone position, or lying on the stomach. As a result, the breast falls away from the chest wall and heart, making it easier to avoid the heart altogether. Prone treatment is only effective for 30-35 percent of breast cancer patients. For those who need to be treated supine, or while lying on their back, we have incorporated a technique called deep inspiration breath hold (DIBH), which takes advantage of a hyperinflated lung, expanding the chest wall and exposing the breast and not the heart to the radiation beam. Patients who are treated with this technique are monitored, and only when the breath is held with a deep inspiration is the treatment initiated.



This pulsed therapy is accurately monitored by a technology call AlignRT that topographically maps out the patient's body with laser beams that are outlined from the planning CT scans to make sure that the pulsed therapy is extremely accurate.

The combination of hypofractionation, prone breast techniques, DIBH, and AlignRT are some of the ways in which we are making breast cancer treatment safer for our patients. Fewer side effects, convenience and safer treatment are just a few of the advantages that we offer.

Department of Radiation Medicine Locations

*A Division of Long Island Jewish Medical Center

Improving our care with smarter radiation oncology

The Department of Radiation Medicine continues to grow and enhance the services offered across the geographic continuum of the health system. Since 2014, the department has doubled in size from four locations to ten. With each additional location integrated into the system, the department has implemented new technology and new techniques, increasing the treatment options offered to our patients. As an integrated service line, radiation medicine operates as a single department with multiple locations, ensuring that our patients receive the same high level of care at any of our facilities. The driving force behind this approach is what we call **Smarter Radiation Oncology®** (SRO).

SRO offers uncompromised, high-value, and technically advanced world-class care via evidence-based and standardized care-pathways

SRO offers uncompromised, high-value, and technically advanced world-class care via evidence-based and standardized care-pathways. It provides innovative systems management that drives safe and high-quality care, where customer service is central.

Our core operations are located at the Center for Advanced Medicine (CFAM) in Lake Success and across the street from Long Island Jewish Medical Center (LIJMC). Our CFAM location offers natural light, easy parking, and a patient-centric design to enhance the patient experience. All under one roof, this location is full of technology that allows our physicians to select the most appropriate modality to personalize their treatment.

The Department is also located at Lenox Hill, Glen Cove, Staten Island University Hospital, and Southside Hospital. Also part of the department is the health system's first ever joint venture enterprise with North Shore Medical Accelerator (CyberKnife of Long Island). Together, each of these facilities offers our evidence-based treatment directives and uses our work flow and process-driven safety approaches to radiation therapy care.

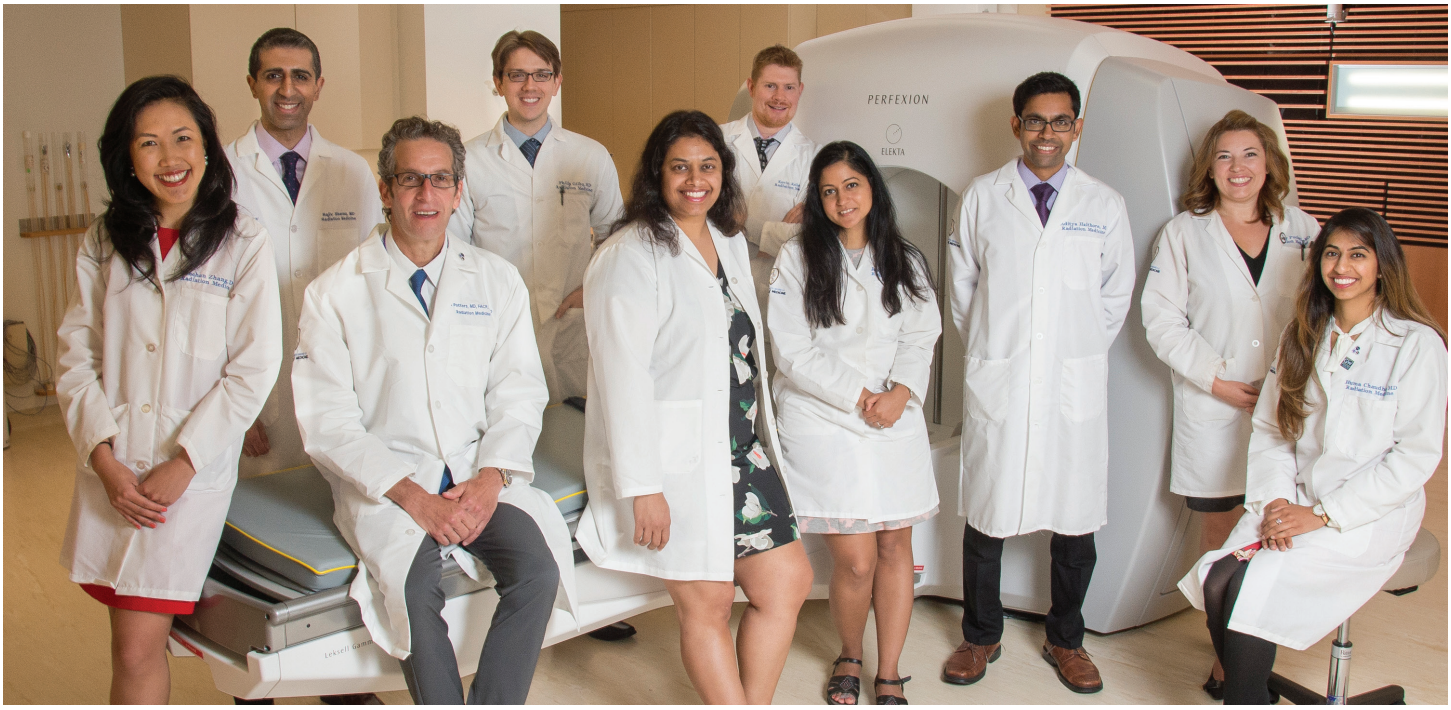
Over the next year, there will be additional changes as the department expands. This includes a new Varian TrueBeam linear accelerator at SIUH, a new facility opening in Bay Shore, and the opening of a brand-new department at Phelps Memorial Hospital Center. We will also be co-locating our inpatient services at LIJMC and closing the department at North Shore University Hospital.

A First Graduation

The Department of Radiation Medicine recently reached a new milestone with the graduation of our inaugural resident physician training class. Dr. Prachi Jain and Dr. Jagdeep Raince became the first graduates of the Northwell Health Radiation Oncology Residency Training Program. They began their pioneering journey in July 2012 and have set an excellent standard, paving the way for subsequent residency training classes and culminating in their graduation in June 2016.

The Department of Radiation Medicine received initial accreditation for the first residency training program in Radiation Oncology at Northwell Health in 2011. Starting the program was a key priority for Dr. Louis Potters, Chair of Radiation Medicine, in an effort to infuse a greater academic focus in the department and emphasize the importance of training future leaders in radiation oncology. Dr. Rajiv Sharma has served as residency program director and since the inaugural class started in 2012 the program has grown to a full complement of eight residents across four post-graduate training classes. During this time, the presence of residents training in radiation oncology has facilitated greater scholarly research activity for the department, a continued emphasis on evidence-based practices, and the recruitment of teaching faculty who are dedicated to advancing the field of oncology and training future academic leaders. In addition, the department has aligned with researchers at the Feinstein Institute for Medical Research and Cold Spring Harbor Laboratory to provide basic and translational research opportunities for our residents to facilitate their maturation into clinician scientists.

Following graduation, Dr. Jain will start a fellowship in neuro-radiation oncology at Yale University and Dr. Raince will start a fellowship in brachytherapy at UCLA. The Department congratulates them on their achievements and wishes them success in their future endeavors!



Pictured Left to right:
Bingchan Zhang, MD; Rajiv Sharma, MD; Louis Potters, MD; Philip Gilbo, MD; Prachi Jain, MD; Kevin Kelley, MD, PhD; Jagdeep Raince, MD; Aditya Halthore, MD; Lindsay Puckett, MD; Huma Chaudhry, MD

Spotlight on Dr. Beatrice Bloom

In May of this year and on the heels of being recognized this past February by the United Jewish Appeal of Long Island, Dr. Beatrice Bloom received the Sandra Atlas Bass Award for Clinical Excellence at the biennial women's health conference hosted by the Katz Institute for Women's Health. Selected from a group of distinguished candidates, Dr. Bloom was chosen for this award not only for her exceptional clinical skills but also because she serves as a role model for other physicians within her clinical department.

Dr. Beatrice Bloom grew up in Queens, graduated from Cardozo High School, and received her BS/MD from Rensselaer Polytechnic Institute and Albany Medical College in 1980. After completing her residency in radiation oncology at Thomas Jefferson in 1984, she returned to New York as an attending physician at Montefiore/Albert Einstein College of Medicine.

In 1986, Dr. Bloom moved to Long Island Jewish Hospital, where she remained until 1996. During her time there, she continued her work in gynecologic and breast oncology, was a founding member of the Multidisciplinary Breast Consultation Service, and served as an advisor to the Breast Support Group. After leaving LIJ, Dr. Bloom spent a brief time at Mercy Hospital before becoming the director of Radiation Oncology at Good Samaritan Hospital in Rockland County, where she remained until 2008. She then returned to North Shore Long Island Jewish Hospital as physician-in-chief of the Radiation Medicine Department at the Manhasset division of North Shore-LIJ, now Northwell Health.

Adding to her clinical accomplishments, Dr. Bloom is also known for her selfless dedication and positive impact on the local community. For this, she was recognized by the UJA-Federation of New York Long-Island Health Professionals who presented her with the Dr. Edward Meilman Community Service Award earlier this year.

It is an honor to work with such an extraordinary woman who is so passionate about her craft and who deeply cares about our patients, her peers and the communities we serve.

Dr. Bloom now serves as acting vice chair of the Department of Radiation Medicine, is a participant in the Physician Leadership program and a member of Northwell Health Physician Partners, and continues her work as a member of the Breast Cancer and Gynecologic Oncology Centers of Excellence of Northwell Cancer Institute.

Dr. Eric Klein appointed to board of AAPM

Dr. Eric Klein, PhD, vice president director of medical physics for Northwell Health, will be appointed to the board of the American Association of Physicists in Medicine (AAPM) as a member at large, effective January 2017. One of the primary goals of AAPM – formed in 1958 by physicists in order to promote the application of physics to medicine and biology – is the identification and implementation of improvements in patient safety for the medical use of radiation in imaging and radiation therapy. Dr. Klein is a member of both the Departments of Radiation Medicine and Radiology at Northwell Health and has led the medical physics program since summer 2015.

Publications, presentations, and more

Publications

Since 2012, Northwell Health Department of Radiation Medicine has published more than one academic article every two weeks. In 2015, an article authored by a member of the department was published two out of every three weeks.

One standout high impact publication published in *Practical Radiation Oncology* this past year outlined our Smart Rounds concept. "Prospective Contouring Rounds: A Novel, High-Impact Tool For Optimizing Quality Assurance" described our everyday departmental processes of peer review for every single patient. This program is unique as every patient, regardless of location, requires peer sign off of the faculty before undergoing treatment. And we found that as many as 40 percent of cases require some change, whether major or minor. Numerous other institutions have expressed an interest in learning more about how Northwell Health Department of Radiation Medicine has confronted and minimized sources of error and inefficiency.

Presentations

Departmental staff are also lecturing and presenting at local venues across the country and around the world. One shining example of cutting edge clinical research that are of international interest are the research protocols evaluating head and neck cancer salvage and boost SBRT. This work, led by Dr. Maged Ghaly, was selected for a podium presentation at both the American Society for Radiation Oncology meeting last fall in San Antonio and the Leksell Gamma Knife Society meeting in Amsterdam

Turning research into clinical care

Another area of cutting edge research is how we have incorporated hypofraction as part of standard care. One clinical research area that is both impressive and simple is our department's treament of palliative care cases, where shorter courses of treatment are not only shown to be effective, but unburden patients from protracted courses of care. Several submissions to the upcoming national meeting have been accepted based on our experience and will be presented in Boston this September. It is likely these studies will spur further interest in our routine practices and performance measures.

Additional research efforts within the department include pediatric and adult radiation oncology protocols that address tumors arising in or spreading to diverse locations, including brain, spine, gynecologic, head and neck cancer, breast, prostate, and palliative care. Just as with our Smart Rounds experience, careful evaluation of how we conduct our care can lead to improvements in care. All of us should look for opportunities to participate in research, and everyone's ideas about what might be improved can be tested to achieve better patient care. Let's write a research proposal together!