Recent articles published in the *New York Times* have shared the unfortunate stories of patients negatively impacted by errors made during the administration of radiation therapy. While it is important to appreciate errors in medicine and swiftly correct them, particularly in an age of increasingly complex technology, these articles have done a very good job at frightening readers, particularly those facing a new cancer diagnosis. What these articles fail to mention are the rigid quality assurance regulations in place for hospitals and physicians, at both the state and federal levels. The entire radiation oncology staff at both Overlook and Morristown Memorial Hospitals believes it is important to share some of our methods for quality assurance with the physicians in our community. Treatment delivery at our institutions includes the following safeguards:

- Our treatment team consists of board certified Radiation Oncologists, Medical Physicists, and Radiation Technologists, who are on site and with the patients the entire time during which patients are being treated.

- Every day, before a single patient is treated, each of our therapy machines is put through a battery of calibration checks.

- All treatment plans are independently reviewed by multiple members of our physics departments and approved by our physicians before any treatment is given.

- Our experienced medical physicists perform QA (quality assurance) checks on every single plan. A trial run of the treatment plan is performed on a model that simulates the human body (a phantom), verifying each patient’s tailored measurements, treatment angles and doses prior to any treatment being delivered.

- The radiation oncologist verifies each treatment field with patient positioning prior to the first treatment delivery, reviewing films taken at all treatment angles.

- Intensity Modulated Radiation Therapy (IMRT) QA includes additional dosimetric checks, verifying that the multileaf collimator leaves are positioned correctly. Radiation therapists will also continually monitor their movement throughout the course of each treatment.

- Throughout the course of treatment, real time images are acquired in the treatment position with various imaging modalities including X-ray and CT to verify patient positioning and ensure accurate delivery. These images are reviewed by our physicians daily.
Patients are seen regularly throughout treatment by our radiation oncologists, monitoring for treatment related side-effects.

Weekly chart rounds are held reviewing all new patients starting treatment, any patients with changes to treatment, and any patients with issues while on treatment.

Our staff regularly participates in multidisciplinary tumor boards and state, regional and national conferences.

All of our staff complete rigorous training programs before using new technologies.

Of course, radiation treatment, even when correctly administered, may cause significant acute side effects. These side effects may be worse if chemotherapy is given at the same time, as is indicated in many disease sites. We are available to our patients and colleagues at all times to discuss and evaluate any issues, should they arise.

Radiation treatment in the best of circumstances is a highly complex and computer-intensive effort, with many potential pitfalls to be avoided. These articles, however sensationalist, caution us in the field that we can never be too diligent in our efforts to avoid these medical errors. Safety at our centers is paramount.

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Did You Know?

We have the most advanced technology:

Carol G. Simon Cancer Center at Morristown Memorial Hospital was the first center in the United States to implement Image Guided Radiation Therapy (IGRT) and to date, we have treated over 10,000 patients.

In 2004, Carol G. Simon Cancer Center at Overlook Hospital became the first medical center north of Baltimore to offer CyberKnife technology, the only radiosurgery system in the world incorporating robotics and image-guidance for the precise and accurate treatment of tumors throughout the body, including brain, neck, spine, prostate, lung, liver and pancreas.

In March 2011, Carol G. Simon Cancer Center at Morristown Memorial Hospital will become the first hospital in the Northeast to employ RealART, an online plan adaptation that allows daily adjustments to the patient’s radiation plan based on his or her daily CT Scan, thus producing a more accurate treatment. This technology also will allow us to better protect healthy structures surrounding tumors.

We support the patient and his or her family every step of the way:

The Carol G. Simon Cancer Center at Morristown Memorial and Overlook Hospitals provide a wide array of supportive care for patients undergoing radiation therapy and their families, including individual and group programs and services facilitated by a dedicated team of oncology dieticians, social workers, integrative medicine practitioners and more.

For more information and a complete listing of programs, contact 973.971.6182 for Morristown Memorial Hospital and 908.522.6168 for Overlook Hospital.

If you would like to receive this publication monthly via e-mail, please contact Gina Carro at gina.carro@atlantichealth.org.