



The new, advanced radiation therapy

TomoTherapy

Technology remains a game changer in the fight against cancer

By Cheryl Lock

At 21st Century Oncology of Jacksonville, radical things are being done to eradicate cancer in patients—and to help make their quality of life as fantastic as it can possibly be.

Helical TomoTherapy is a relatively new, highly accurate technology that uses intensity-modulated radiation to deliver very precise beams targeting a tumor. The technology involves everything from the initial imaging prior to the treatment through the planning of treatment and the delivery of radiation and quality assurance. It's a completely integrated technology at the leading edge

of IG-IMRT radiation—and 21st Century Oncology of Jacksonville has been using it for about five years now.

“Over 1,000 patients have been treated with this technology here,” said Joanne Dragun, M.D., FACRO, Director of Radiation Oncology at 21st Century Oncology of Jacksonville. “Each time this type of therapy is put head-to-head with other platforms in the same field, the

For more information on TomoTherapy at 21st Century Oncology of Jacksonville, visit their website at www.21oncologyfl.com

goals are met in a more precise way with TomoTherapy every time. Today there are only about 300 units worldwide, using the advanced intensity modulated radiation therapy (IMRT) technology for anything from routine to complex treatment, and even retreatment of cases that have previously received radiation.”

Combining state-of-the-art intensity modulated radiation therapy with the precision of computed tomography scanning technology, radiation oncologists using TomoTherapy create detailed, three-dimensional maps of the exact size and location of a tumor, and use those images to plot the tumor’s exact contours, as well as the organs that surround it and any sensitive tissue in the area. A precise dose of radiation is then prescribed, and a single radiation beam is divided into thousands of narrow “beamlets” to deliver radiation from all angles. Daily image guided radiation (IGRT) makes the treatment dynamic. “We can actually see on a daily basis if changes need to be made, if the tumor is shrinking, the patient has a change in weight and so many other factors that require attention to precise detail.”

While there are many advantages to the use of TomoTherapy, for Dr. Dragun and her colleagues at 21st Century Oncology of Jacksonville, the most important benefit comes in the form of improved patient care. “With this treatment, we have the ability to target a tumor, which minimizes the exposure of radiation to normal tissue in the area, as well as the ability to simultaneously treat multiple lesions on the body,” said Dr. Dragun. “We’re also able to reduce the toxicity of radiation, and the treatments can take as little as three to 10 minutes, which is another huge benefit.”

TOMOTHERAPY AS A DIFFERENTIATOR

What’s unique about the Jacksonville Cancer Center, specifically, is their ability to offer the TomoTherapy treatment to every cancer patient they see—they do not have to select out only certain types of cancers to treat. “Just as computerization and the therapy itself has evolved, we have improved how we apply the dose to be sure we are using the technology to the greatest advantage of the



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patient,” said Dr. Dragun. “Additionally, we have an experienced dosimetrist, Bonnie Miller. Staff from around the country seek out Bonnie for her advice. She has been working with this technology since its debut, having worked with one of the first tomo units in the country. Her leadership has really enhanced our own performance here at 21st Century Oncology of Jacksonville, as well as for TomoTherapy as a company.”

Another factor that sets 21st Century Oncology of Jacksonville apart is the fact that since it is a tomo-only center, we benefit from the exceptional support of the TomoTherapy company itself. “Our

equipment is continually updated and enhanced, and we have access to a full-time engineer,” said Dr. Dragun. “And if any new software should become available, 21st Century Oncology of Jacksonville avidly pursues purchasing that for us so that we can keep on the cutting edge and keep updating so that we’re always ahead of the game. There are innumerable benefits being part of the largest company providing radiation therapy in the world.

While the use of this technology is something that the staff at 21st Century Oncology of Jacksonville is happy to offer, at the end of the day, they all realize that it’s just that—technology. It’s a



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piece of highly specialized equipment used to achieve a greater goal. Every patient we see is very unique,” says Dr. Dragun. “Treatment considerations include not only the type of cancer, but the location, the size, the stage, whether chemotherapy or surgery is part of the plan, the patient’s desires and expectations. Every patient who walks through our door is highly unique, and no standard protocols apply. All of our patients are part of every decision we make, and every cancer is treated with millimeter precision. Recognizing the uniqueness of our patients is always respected when it comes to planning with radiation.”

MINIMAL SIDE EFFECTS

The combination of excellent technology (Dr. Dragun says doctors sometimes come to her to use TomoTherapy at 21st Century Oncology of Jacksonville because other equipment simply isn’t an option) and specialized treatment seems to keep patients at 21st Century Oncology of Jacksonville happy, as well, not the least of which has to do with the fact that side effects are minimal with this type of treatment. “Especially important with this type of

therapy is the fact that patients can enjoy the benefit of continuing with their normal day-to-day life,” says Dr. Dragun. “Many of our patients work, or some are retired and are active in the community or love to play golf, and the side effects are much less with this type of therapy. It’s actually not unusual for prostate cancer patients to have no side effects at all. With breast cancer patients, the dose of radiation received to the lungs and heart is much less, so fatigue is less, and skin reactions can be less as well. In patients with lung cancer, we are better able to protect the normal lung, heart and other tissue. In the past, it was not unusual for patients to have several hospitalizations during therapy. And in any pelvic cancer treatments, we have seen less diarrhea or bladder issues, and bone marrow can be maintained because we are able to carve around the bone marrow to protect it, which means patients can avoid being hospitalized for low blood counts.”

Decreased side effects and more effective treatments are so important to the staff at 21st Century Oncology of Jacksonville, because taking care of their patients is their No. 1 concern. “As high technology as this

treatment is, and as grateful as we are to have it, our practice is really about patient care,” said Dr. Dragun. “This is just an instrument. It’s an excellent tool, and I’m thrilled to have it in Jacksonville, but the reality is that cancer is very complex, and it requires an integrated approach to treatment, with a full team including surgical oncology, medical and radiation oncology, as well as patient and family input.”

COMPREHENSIVE COMMUNITY APPROACH TO CARE

In fact, the patient care, and the team effort at 21st Century Oncology of Jacksonville in general, is what drew Dr. Dragun to the Jacksonville cancer center. “I came to this practice from Pennsylvania because a comprehensive team approach to cancer treatment is a necessity,” she said. “Managing patients has always been our prime focus, and because of that concerted effort we can expedite the treatment. The group of specialty cancer oriented physicians and staff work as a team to solve problems. Luckily, cancer patients are living longer lives, with an improved quality of life, but that takes a dynamic approach, with everyone coming together to provide a plan of care quickly, respectfully and with compassion and knowledge. That’s what I love about practicing here—we are always available, and anyone on our team can discuss any case. And it’s not only new cases, but ongoing and following up as well. As a patient moves on in life and other issues develop, all of the physicians are part of the discussion on how to best manage their care.”

21st Century Oncology of Jacksonville also offers imaging services. “I review imaging directly with patients, so they can more clearly understand what their cancer looks like, and how to treat it. I frequently discuss with the radiologist the best type of imaging for the disease. This can limit overdoing testing to find the answers we need expeditiously,” says Dr. Dragun. “With the combination of radiology imaging, surgical oncology, medical oncology and hematology and state-of-the-art radiation therapy, we are comprehensive cancer care in a community setting.” **FD**