Precision technology helps fight cancer

Blue Ridge HealthCare's Radiation Oncology using IMRT, IGRT

BY TONY GLENN
BLUE RIDGE HEALTHCARE

VALDESE - Over the last five years, Blue Ridge HealthCare has brought to Burke County high-tech tools that greatly improve the efficiency of fighting cancer with radiation.

With one IMRT-capable linear accelerator (and another one soon to be installed), The Cancer Center at Valdese Hospital is poised to become one of Western North Carolina's premiere facilities for radiation oncology therapy.

IMRT is short for Intensity Modulated Radiation Therapy – an advanced mode of precision radiotherapy that delivers radiation doses to a malignant tumor or specific areas within the tumor. The radiation dose is designed to conform to the three-dimensional shape of the tumor by modulating (or controlling) the intensity of the radiation beam.

In this way it can focus a higher radiation dose to the tumor while minimizing radiation exposure of surrounding normal tissues.

"We've been using IMRT a lot lately," said Kim Ellingson, Oncology Manager at The Cancer Center. "We prepared for it last year – and our staff did a great deal of training. But now everything and everyone is up to speed, and it's going very well."

Ellingson said The Cancer Center has been using IMRT to treat lung cancer lesions with targeted doses that would have required radiation exposure to healthy lung tissues in the past.

"We've recently been treating a woman with multiple lesions, and we've been able to break up the radiation so that much of the rest of the lung and other organs get very limited exposure," Ellingson said. "Her prognosis is better with the IMRT, and she hasn't had the side effects you would expect. If we had treated her in the older conformal mode then she would have experienced far more side effects."

Radiation Oncologist, Greg Jones, MD, explained the evolution of Radiation Oncology at The Cancer Center – and the magnitude of its advances.

"Valdese Hospital has had radiation therapy since 1967," Dr. Jones said. "Dr. Emmett White started the program, and since then it utilized three different cobalt radiotherapy units up until I came here in 1991. After that, the hospital bought its first linear accelerator, installed in early winter of 1992.

"That was a dramatic step forward for Valdese Hospital," Jones added. "It took the radiation therapy department into the modern times. This latest machine was yet again just as huge a step forward as it was going from cobalt to the linear accelerator."

Jones said this is true because of advances in dosimetry and the development of multi-leaf collimators.

A medical dosimetrist, like Blue Ridge HealthCare's Scott Grambow, is a specialist who helps develop radiation treatment plans for cancer patients. As he scrutinizes CT sliced images of a patient's anatomy, he digitally outlines vital internal organs and, with the help of Dr. Jones, isolates the cancerous areas.

A computer then tells the linear accelerator how to move the collimators, which are thin lead-alloy leaves that shape the radiation beam. As the accelerator shoots radiation beams at the cancer cells from different angles, the collimators change the shape of the dose to effectively dodge healthy tissue, while intensely targeting the tumor.

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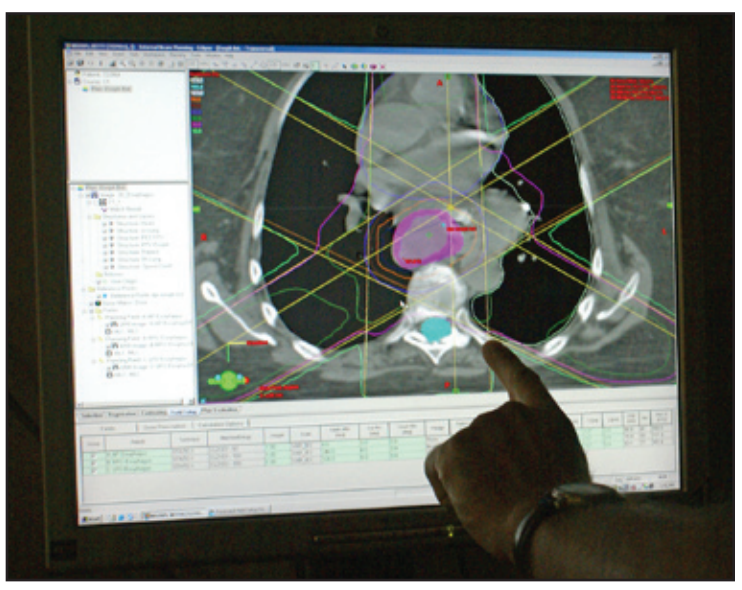
Vicki Dula holds a ring to keep her arms in place while she undergoes radiation treatment at the Cancer Center at Valdese Hospital with the IMRT-capable linear accelerator. The laser beams help to precisely position the radiation.



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A dosimetrist at the Cancer Center reviews an inverse treatment plan.

"Scott's been doing a great job in dosimetry," Dr. Jones said. "We've only recently been able to tap into his full skills because we upgraded a lot of computer equipment that he uses. We've started using a treatment planning system which is one of the top in the market."

The new treatment planning software and hardware have placed the technology available at The Cancer Center on a par with treatment facilities at larger medical centers.

The latest radiation techniques use Image-Guided Radiation Therapy or IGRT. IGRT allows medical professionals to very carefully monitor the positioning of the patient, to make sure that the proper tissues are being treated. This technology allows the IMRT to be delivered even more accurately.

IGRT is helpful because tumors can move, both during a radiation treatment session and from one treatment session to another as a result of normal internal organ action (digestion, elimination, and breathing).

The new image-guided techniques help to verify the tumor location each day. Sometimes IGRT uses electronic portal imaging, which requires the placement of small, inert marker seeds in the soft-tissue tumor as an aid to visualization and location. Other methods can be used as well to ensure that the radiation beam is guided to the proper tissues.

"We can now get so much tighter on the target volume," Dr. Jones said.

But not every type of cancer is best treated with the newer methods. Dr. Jones explained that sometimes the most appropriate scenario is to treat a large area where there may be microscopic malignant cells.

"There is actually more total number of radiation therapy cases that require a wide field of radiation rather than IMRT," said Dr. Jones. "One of the advantages of the treatment planning systems, and all of the effort and training that goes into utilizing these special techniques, is that we know with a much more refined ability exactly what's going on in the tissue – even when we're treating a very large field."

Jones and Ellingson said that even more technology and modifications to their equipment are forthcoming – advances that will enhance their already state-of-the-art treatment options. Jones said these advances will allow him to treat even more cancer cases here in our area, without having to refer patients to distant treatment facilities.

"I'm very optimistic about what we have right now, and the team that we have together to do it," Dr. Jones said. "Our therapists who are the ones on the forefront – the ones who are seeing the patient everyday – they are superb. Every day they are getting the treatments set up to within about a 2mm margin of error. That's outstanding."

But Dr. Jones' is most encouraged by the compassion that accompanies the precision his staff exhibits.

"We're taking care of our little corner of the world by talking with the patients, sharing with them, loving them and being a part of their lives during the time they are with us," he said. "I think that's what makes a tremendous difference in The Cancer Center. That's what's different about Valdese Hospital."

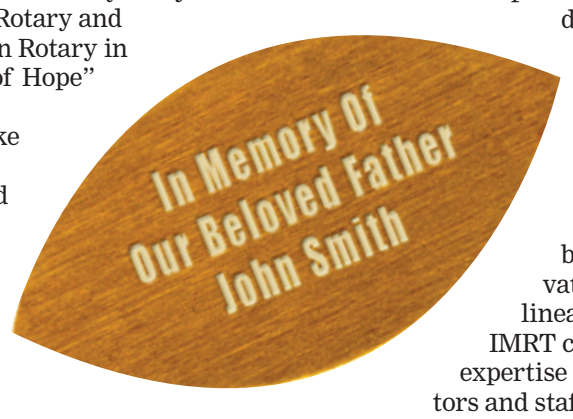
TONY GLENN is a writer and graphic artist in Blue Ridge HealthCare's Marketing and Public Relations Department.

Blue Ridge HealthCare, Rotary team up for cancer endowment

BY ANNA WILSON
BLUE RIDGE HEALTHCARE

VALDESE - Blue Ridge HealthCare is teaming up with the three Rotary Clubs in Burke County to establish an endowment fund for cancer patients.

Ben Cozort of the Sunrise Rotary will join John Guigou of Valdese Rotary and Jim Medlin of Morganton Rotary in kicking off the "Legacy of Hope" campaign.



Cozort has more at stake than his Rotary membership. He is taking the lead in this project as a way to honor his late wife, Jane, who died of cancer 2 ½ years ago.

"We had gotten good checkups except one of Jane's numbers didn't look right," he said. "They ran some more tests and found out she had cancer in her liver. Six weeks later she was dead."

The couple had been married since 1962. Cozort now questions himself over the decision to get treatment at a larger hospital in an urban area. "I have regrets about that," he said. "I felt like we were treated like a number. I don't think people in Burke County realize what we have at Valdese Hospital and the Cancer Center."

Cozort found out about the extensive treatment options available when he called the hospital to see if he could donate his wife's wigs. He met with Cancer Care Coordinator Jan Hollar who, during the course of their conversation, told him about the building and renovation projects, the linear accelerator with IMRT capabilities, and the expertise of the oncology doctors and staff.

"We started talking about all the changes at the Cancer Center," she said. "He jumped in and volunteered to help in any way. I then told him about the endowment effort we wanted to get started."

Currently, through grants and other fundraising events, the Cancer Center provides numerous free services to cancer patients and free screenings to the general public. The endowment would supplement those funds to enable even more people to receive help.

For Cozort, the volunteer effort fits in nicely with a new push by Rotary International for the clubs to be more interactive with one another. "They want us to be a Rotary family," he said. "So I decided to get all three Rotary Clubs to come together to help create this endowment."

The goal is to sell 300 brass leaves for $1,000 each to create a $300,000 principal. Money earned from interest and investments will be used to provide free mammograms, free prostate screenings, free colorectal screenings, medication assistance, transportation assistance, support groups and more. The leaves, imprinted with a name or personal message, will be incorporated into a wall mural at the Cancer Center.

It's important to note that none of the money will go toward the building and renovation projects currently taking place. "The money will strictly be used to help pay for patient services and screenings," Hollar said.

Cozort praised the Rotary Clubs for their involvement, and says he doesn't expect the three clubs to donate the entire amount. He would like to see Rotary members take the "Legacy of Hope" message to their neighborhoods, their churches, their employers, their other civic clubs and their families. "We want the community to be involved," he said. "I'll continually bring it up to my club, reminding members of the endowment. I've already had one club member who is going to talk to his men's group at church about purchasing a leaf."

Cozort, Guigou and Medlin will follow up within the club and make personal contacts with others. They figure the project to last two or three years.

"Cancer hits every family," Medlin said. "It does not discriminate. This endowment will be here in perpetuity. It will not go away."

"Cancer is ugly," Cozort added. "It is ugly inside and out. I saw what it did to my beautiful wife. It is important to me to help people not be a walking sign of cancer on the outside and to feel better about themselves."

FOR MORE INFORMATION or a brochure about the "Legacy of Hope" campaign, please call 580-6703.

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