

FHCN photo by Nerissa Johnson



Radiation plays a major role in the treatment of cancer, notes Dr. Bishay, and intensity modulated radiation treatment (IMRT) enables radiation oncologists to deliver a higher dose to a tumor, while sparing normal tissue.

The role of radiation in cancer treatment

Cancer treatment requires a multi-disciplinary approach," offers board-certified radiation oncologist Sawsan G. Bishay, MD, of Florida Cancer Institute. "When a patient knows they have cancer, they need to be aware that they will have to see a radiation oncologist.

"Radiation is not indicated or involved in the management of cancer at every site and every organ," she explains, "but there are sites where radiation treatment is extremely important. Patients need to ask their doctors — whether a medical doctor, medical oncologist, or surgeon — about the role a radiation oncologist needs to play in their care."

Dr. Bishay notes that there are two types of cancer treatment: adjuvant and primary. Adjuvant therapy refers to additional anticancer treatment given after a cancer is removed surgically or through radiation to eliminate any remaining tumor cells in the body after primary cancer treatments such as

surgery or radiation treatment. "If surgery is not applied, radiation needs to enter the picture. Most cancers require one or the other, and some will require both radiation and surgical intervention. The concept is that there is adjuvant treatment and mainstay treatment, and the radiation really is a mainstay treatment for quite a number of sites.

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Larry Gandle, MD • Sawsan G. Bishay, MD

"With a primary or secondary brain tumor, for example, radiation is always indicated," educates Dr. Bishay. "With most of the head and neck cancers, in fact, the treatment charts with either surgery or radiation, and chemotherapy may be used as an adjuvant therapy.

"For lung cancer, in the event that surgery is not indicated, radiation is also the main treatment. Chemotherapy is usually given as an adjuvant therapy for lung cancer patients.

"For breast cancer, with today's more conservative management, and more preservation

of the breast tissue, radiation is usually a standard part of the treatment. The treatment is not completed after lumpectomy surgery unless the patient has radiation. So it's not an adjuvant treatment, like chemotherapy, but rather a mainstay part of the treatment plan."

In the case of colorectal cancer, treatment over the years has shown marked improvement in survival rates with the addition of radiation therapy, adds Dr. Bishay. "In colorectal cancer, chemotherapy and radiation have mostly worked as an adjuvant therapy. But nowadays, we select more patients for preoperative radiation — plus or minus chemotherapy — because it has shown better results, which is usually translated into better survival rates."

In skin cancer, radiation plays a role in certain areas of the body such as the face, because of the cosmetic aspect, says Dr. Bishay. "In areas of the face where the patient can end up with a scar or may require grafts or plastic surgery to ensure a positive cosmetic out-

Larry Gandle, MD, is a board-certified radiation oncologist. He received his undergraduate degree in biology from Tulane University College of Arts and Sciences, New Orleans, LA, where he graduated cum laude and went on to complete his medical degree at Tulane University School of Medicine. He served his internship in general surgery at Montefiore Hospital, where he also completed residencies in general surgery, urology, and radiation oncology. He is a member of the American College of Radiology, Radiologic Society of North America, and American Medical Association.

Sawsan G. Bishay, MD, is a board-certified radiation oncologist. She completed her undergraduate degree and received her medical degree from the Alexandria University School of Medicine. She served her internship in internal medicine at the Methodist Hospital of Brooklyn and went on to complete a residency in the radiation oncology department. Dr. Bishay was chief resident in the radiation oncology department of the New York Methodist Hospital and is a member of the American Society for Therapeutic Radiology and Oncology.

come, radiation plays a role."

Finally, in prostate cancer, radiation and surgery both frequently play a role. Studies have shown that they are both about equal in effectiveness and carry the same survival rate.

"Radiation treatment also plays a major role in palliation of symptoms related to cancer, such as bleeding, pain, or obstruction," Dr. Bishay notes.

3D treatment planning and IMRT

Dr. Bishay explains that advances in radiation technology and delivery have made the treatment much safer than it was years ago.

"When we talk about radiation, people need to understand that there has been a great deal of progress and quite a few technological advances involved with the radiation treatment. We have done exceptionally well over the last few years by involving the CT scan in our treatment planning.

"A CT scan gives us a chance to precisely delineate the tumor, and that helps us to spare more normal tissue. That's usually translated into less side effects."

"With the use of intensity modulated radiation treatment,

or IMRT, technology, we are able to deliver more dose to the tumor while sparing normal tissue," says Dr. Bishay, "and that usually translates into better local control, which in turn usually translates into better survival rates.

"Really, what we are talking about is the use of computer-generated treatment planning. With the use of the CT scan and the computer, we are able to generate a plan in multiple dimensions. With IMRT, we deliver a precise beam that is able to hit the tumor and spare the surrounding tissue. It's like delivering multiple radiation beams, and that's the beauty of IMRT.

"People typically believe that radiation is dangerous. But it does cure cancer, which is what we want people to understand so they won't be scared of it. We deliver radiation treatment safely and precisely, and we are able to control many problems patients used to get during radiation treatment.

"We usually deliver IMRT over a period of weeks during daily visits to our center. Whether it's five weeks or seven weeks, depending on the indication or the site being treated, it's actually a mild treatment course." **FHCN**—Michael J. Sabno

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