

Radiotherapy for Breast Cancer

Radiotherapy significantly improves breast cancer outcomes in women treated with lumpectomy and in select patients who receive mastectomy. It is often the last component of active treatment for breast cancer patients who have received surgery and chemotherapy when indicated. Radiotherapy causes biological effects in the cancer cells that cause them to die. After surgery, radiotherapy may be used to stop the growth of any cancer cells that remain. Radiotherapy dose is calculated ahead of time by a team of physicists, oncologists and dosimetrists. The therapy is designed for your specific case as well as your health and body type. The dose is enough radiation to keep a tumor cell from being repaired, while still allowing normal cells to recover before the next dose.

In patients who are treated with chemotherapy first and then surgery or surgery without chemotherapy, radiotherapy typically begins 6 to 8 weeks after surgery.

In patients who are treated with surgery first and then chemotherapy, radiotherapy typically begins 4 to 6 weeks after the last cycle of chemotherapy.

Before beginning radiotherapy, a simulation, also known as a “marking”, procedure will take place. During the simulation, a non-contrast CT scan is performed of the patient in the treatment position. The patient will leave that session with non-permanent marks on his or her skin. This allows the radiation therapists to accurately align and set up the patient, delivering precise treatment on a daily basis.

The radiation oncologists will plan the radiotherapy with a team of physicists and dosimetrists over 3 to 5 business days between the simulation and the first day of radiotherapy treatment. The radiotherapy plan is generated on the CT scan from the simulation in order to give the appropriate radiotherapy dose to the breast and/or draining lymph nodes and to minimize dose to critical structures like the heart.

Radiotherapy is typically given once daily, Monday-Friday, for 3 to 6 weeks depending on a patient's stage of disease. Occasionally, patients with specific types of breast cancer may be offered Accelerated Partial Breast Irradiation (APBI) treatment for one week given twice daily with the use of a catheter placed inside of the breast. Another option for select patients is a one-time intraoperative treatment performed at the time of lumpectomy (IORT – intraoperative radiotherapy).

Why Receive Radiotherapy for Breast Cancer at the Glenn Family Breast Cancer Center, Winship Cancer Institute of Emory University?

- Our department is one of the only radiation centers in Georgia to offer radiation treatment tailored to breast cancer by Board Certified physicians sub-specializing in breast cancer.
- Based on our practice model, we are able to offer patients high quality care through an integrated, well-coordinated breast cancer specific team consisting of physicians, nurses, radiation therapists, physicists, and dosimetrists all dedicated to accurate radiotherapy treatment delivery in our breast patients
- Emory's Department of Radiation Oncology is dedicated to rapidly adopting the latest technology enabling accurate, well-defined radiotherapy planning and treatment.
 - First in Georgia to implement CT-based simulations and intensity modulated radiation therapy (IMRT) minimizing toxicity to critical organs
 - Early adopters of novel radiation technology from Varian and GE Medical Systems and Brachytherapy (Mammosite) Radiotherapy.
 - First radiotherapy center in Atlanta to offer intraoperative radiotherapy (IORT)
- To minimize radiotherapy dose to the heart, we were also one of the first centers in Georgia to acquire and use deep inspiratory breath hold technology routinely in our patients with left sided breast cancer
- Our physicians are consistently rated as the best Atlanta physicians in radiation oncology by Atlanta Magazine.

- As committee members for national and international organizations including the American Society of Clinical Oncology (ASCO), the American College of Radiology (ACR), the American Society of Radiation Oncology (ASTRO), the Radiologic Society of North American (RSNA), the Eastern Cooperative Oncology Group (ECOG), and NRG Oncology, our faculty help shape national standard guidelines for radiation oncology and develop clinic trials to advance the field of radiation oncology.
- Our physicians, therefore, are uniquely positioned to have access to the latest information on cancer care and are able to offer you the most up to date cancer treatment.
- Our department offers the largest number of radiation clinical trials in the state of Georgia. Our goal is to improve radiation treatments, minimize the inconvenience of radiation, and decrease radiation-induced toxicity. There are currently 5 active breast clinical trials through NRG Oncology or investigator-initiated studies.

Request an Appointment

The Glenn Family Breast Center at Winship Cancer Institute offers different paths to care based on where you are in your diagnosis. If you or a loved one have been recently diagnosed with breast cancer or you are seeking a second opinion, please contact us at 1 (888) 946-7447 or (404) 778-1900 to request an appointment.

Operated by Emory Healthcare, our breast imaging center offers 3-D mammography, ultrasound and other imaging services. To request an appointment for a mammogram, please call (404) 778-PINK (778-7465) to speak with a scheduling coordinator.

Radiotherapy Side Effects and Myths

- Fatigue and sunburn type reactions may occur during radiotherapy, particularly in the last 1 to 2 weeks of treatment. The sunburn may get worse for 2 to 3 weeks after you finish radiotherapy, but it will then quickly heal.
- Patients may lose hair in their armpit, but they do not typically lose hair from their head.
- Nausea and vomiting are not typically associated with breast radiotherapy.
- Patients are not radioactive during treatment.
- Radiotherapy is not typically painful.
- Patients will be able to drive themselves to radiotherapy appointments.
- In the long term, hardening of the breast, permanent tanning of the skin, and changes in the shape of the breast may occur.
- There is also a small risk for arm swelling (lymphedema) following radiation.
- The small dose to the heart has been dramatically reduced with advanced radiotherapy techniques and modern studies do not show a significantly increased risk of heart injury after modern radiotherapy treatment.
- Radiation exposure to surrounding tissue can present an extremely small increased risk of a second cancer developing follow radiotherapy, but this risk is proven to be outweighed significantly by the benefit that radiotherapy provides in addressing the current breast cancer.