

Partial breast irradiation effective treatment option for low-risk breast cancer

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A new study conducted in part at The Ohio State University Comprehensive Cancer Center- Arthur G. James Cancer Hospital and Richard J. Solove Research Institute finds a certain group of breast cancer patients can have the same successful results of full-breast radiation after lumpectomy with a shorter treatment that focuses radiation just to the small area where the tumor is removed. Credit: The Ohio State University Comprehensive Cancer Center

Partial breast irradiation produces similar long-term survival rates and risk for recurrence compared with whole breast irradiation for many women with low-risk, early stage breast cancer, according to new clinical data from a national clinical trial involving researchers from The Ohio State University Comprehensive Cancer Center—Arthur G. James Cancer Hospital and Richard J. Solove Research Institute (OSUCCC—James).

This randomized, phase 3 study compared whole breast irradiation with partial breast irradiation in a large group of women with stage 0, 1 or 2 [breast cancer](#). More than 4,200 patients were enrolled in the trial as part of NRG Oncology cooperative group [clinical trial](#).

Study results showed that while partial breast

irradiation does not produce equivalent cancer control for all [breast cancer patients](#) with stage 0, 1 and 2 disease, it should still be considered as an alternative for women with DCIS (ductal carcinoma in situ) and early stage breast cancers deemed "low risk," based on other tumor characteristics.

When looking at the entire study population, women who received partial breast irradiation experienced a 4.6 percent recurrence rate. Those who underwent whole breast irradiation experienced at 3.9 percent rate of recurrence. Toxicity from [treatment](#) was similar, as well as the risk for secondary cancers.

However, researchers also looked at how this played out in subsegments of the population and found that rates of recurrence were nearly identical for women with DCIS, regardless of whether they received whole or partial breast irradiation. This was also true for women with breast cancer classified as low-risk, based on the American Society for Radiation Oncology (ASTRO) clinical guidelines.

Researchers showed that in this subsegment of breast cancer patients, the likelihood of recurrence 10-years post treatment was very low overall and almost identical between women who received [whole breast irradiation](#) (2.3 percent) and partial breast irradiation (2.7 percent).

Julia White, MD, co-principal investigator of the national trial and head of breast [radiation oncology](#) at the OSUCCC—James says this is very important because it reduces the burden of care for women who can still achieve cancer control with fewer treatments, over a shorter period of time.



Dr. Julia White led a study at The Ohio State University Comprehensive Cancer Center- Arthur G. James Cancer Hospital and Richard J. Solove Research Institute that found many breast cancer patients can benefit from partial-breast radiation, an option that is much shorter than standard radiation after lumpectomy. Credit: The Ohio State University Comprehensive Cancer Center

"A significant portion of the breast cancer patient population nationally—about 25,000 to 30,000 women—would qualify for partial breast irradiation. This is tremendously important because it allows us to give women the right amount of treatment for her disease, and potentially allowing better access to effective breast conservation for those who live far from a radiation facility. Partial breast irradiation can also be delivered in five consecutive days versus whole breast, which can involve four to six consecutive weeks of multi-day treatment. There is no denying that the five day treatment is less costly and disruptive to life."

At the OSUCCC—James, breast radiation is also delivered in the face down (prone) position to reduce radiation exposure in the chest wall, which has been linked to increased risk of heart and lung disease post [cancer](#) treatment.

Provided by The Ohio State University

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