

Stereotactic partial breast radiation lowers number of treatments to five

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Dr. Asal Rahimi (left) recommended a new stereotactic partial breast radiation treatment for Leslie LeBlanc. A new study showed that stereotactic partial breast radiation was as safe as traditional radiation but decreased treatment time from six weeks to just days. Credit: UT Southwestern Medical Center

UT Southwestern Medical Center researchers found in a recent phase one clinical trial that stereotactic partial breast radiation was as safe as traditional radiation but decreased treatment time from six weeks to just days.

UT Southwestern's Harold C. Simmons Comprehensive Cancer Center is the only site in Texas and one of a few in the world to offer stereotactic partial breast radiation treatment to early-stage breast [cancer patients](#).

"Standard breast cancer treatments are delivered daily to the entire breast area over three to six weeks. We sought to deliver partial breast radiation in a noninvasive way, using precise image-guided stereotactic radiation," said Dr. Asal Rahimi, Assistant Professor of Radiation Oncology and first author of the study. "Our trial decreased treatment time to just five treatments delivered every other day."

Seventy-five patients were studied from 2010-2016, in whom stereotactic partial breast radiation demonstrated both outstanding tumor control and excellent cosmetic results. Patients in the trial had been recently diagnosed with early-stage breast cancer. The study is published in the *International Journal of Radiation Oncology, Biology and Physics* and was funded by a grant from Accuray, producers of the Cyberknife used to deliver stereotactic partial breast radiation.

One of the trial participants is Dr. Rahimi's patient Leslie LeBlanc, a dental hygienist and resident of Arlington, Texas. Mrs. LeBlanc was diagnosed with early-stage breast cancer four years ago at age 47. Her daughter had just started college and her son was in high school.

"The same day that I got the diagnosis was mother's weekend for my daughter at college. I drove straight to Austin and told her the news," said Mrs. LeBlanc, who recalled the shock of being diagnosed. "It's like you're in the eye of a hurricane. Everything is buzzing around you, but you can't do anything but what they ask you to do, or tell you is the best option."

While no genetic link has been established, her two sisters had previously been diagnosed with breast cancer, so the family had some

experience with the disease. Mrs. LeBlanc was already in a risk assessment program at UT Southwestern and had mammograms and MRIs every six months, which helped catch her disease early.

"It was overwhelming to consider doing several weeks of daily radiation while trying to work fulltime, be with my family, and do everything that I needed to do. This treatment option was so much better. I only missed a few days from work," said Mrs. LeBlanc, who is looking forward to reaching her 5-year mark as a survivor next year.

"Mrs. LeBlanc is a working woman, a mom, and a wife. She's a great example of many women that will be impacted by this disease," said Dr. Rahimi. "We wanted to make this treatment more convenient for patients, because cancer is never convenient."

The researchers plan continued studies of the partial breast radiation technique.

"As technology improves, we will detect more early-stage breast cancers." said Dr. Robert Timmerman, Professor of Radiation Oncology and senior author on the study. "Patients with these early cancers might particularly benefit from a local therapy approach that both minimizes the normal tissue exposure while improving the convenience for patients who already lead hectic lives."

According to the National Cancer Institute, 252,710 women will be diagnosed with breast cancer this year. When breast cancer is found early before it has spread, the patient has an improved chance of surviving five years after being diagnosed. For breast cancer I females, 61.8 percent are diagnosed at the local stage. The 5-year survival for localized breast cancer in women is 98.9 percent.

Stereotactic partial breast [radiation](#) is delivered with the latest generation

CyberKnife, one of several technologies in UT Southwestern's newly opened \$66 million, 63,000-square-foot Radiation Oncology facility. The new facility houses a comprehensive mix of UT Southwestern's best cancer [treatment](#) technologies and medical expertise under one roof, and has dedicated areas for each major disease site such as brain, [breast](#), and gastrointestinal cancer.

More information: Asal Rahimi et al, Preliminary Results of a Phase 1 Dose-Escalation Trial for Early-Stage Breast Cancer Using 5-Fraction Stereotactic Body Radiation Therapy for Partial-Breast Irradiation, *International Journal of Radiation Oncology*Biography*Physics* (2017).
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