
RSNA Press Release

Breast Cancer Treatment Offers Better Outcome to Women with Implants

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At A Glance

- Brachytherapy can successfully treat early-stage breast cancer in women with implants and preserve the breast's appearance.
- Breast brachytherapy substantially reduces the risk of implant hardening.
- Approximately one in eight women who undergo breast augmentation will develop breast cancer during her lifetime.

CHICAGO — Women with early-stage breast cancer who have undergone breast augmentation may be treated successfully with a partial-breast radiation treatment called brachytherapy, according to a study presented today at the annual meeting of the Radiological Society of North America (RSNA). Patients treated with brachytherapy have better cosmetic outcomes and avoid the risk of the implant hardening, compared to patients who undergo whole-breast radiation therapy.

"We are seeing an increasing number of breast cancer patients with augmentation," said Robert R. Kuske Jr., M.D., clinical professor at the University of Arizona Health Sciences Center and radiation oncologist at Arizona Oncology Services in Scottsdale, Ariz. "By nature, these women are concerned about their appearance and we need to have options for them."

According to the American Society of Plastic Surgeons, breast augmentation is the most popular cosmetic surgery in the U.S. with 347,500 procedures performed in 2007. This represents an increase of 64 percent since 2000. Approximately one in eight women who undergo breast augmentation will develop breast cancer at some point in their lives.

The most common breast cancer treatment for patients with breast implants is skin-sparing mastectomy and implant exchange. Whole-breast radiation therapy after lumpectomy is an option, but carries a substantial risk during the healing process of scar tissue wrapping around the implant, causing it to become rock-hard and extremely painful. This condition, known as capsular contracture, also distorts the appearance of the breast.

Dr. Kuske set out to determine if partial-breast radiation with brachytherapy might offer a

better outcome for women with implants wishing to avoid mastectomy.

Breast brachytherapy is a radiation treatment that can be given in higher doses to a small, targeted area of the breast after lumpectomy. Radioactive “seeds” are guided into place through small plastic tubes, or catheters, with the aid of imaging and a computer. The seeds emit high doses of radiation in short bursts.

Scar tissue is minimal, the implant remains unaffected and treatment time is shortened from 6½ weeks with whole-breast radiation therapy to five days with brachytherapy.

For the study, 65 women who were diagnosed with small, early stage malignant tumors were treated with brachytherapy after a lumpectomy. The women received two doses per day, separated by six hours, over a five-day period. Follow-up was six months to five years. None of the patients experienced tumor recurrence during the follow-up period. Cosmetic outcome was determined to be good to excellent in 100 percent of patients with 95 percent judged excellent. Implant hardening was not observed in any of the patients.

"Compared to traditional treatments, brachytherapy offers an excellent alternative for these women," Dr. Kuske said. "It offers very high rates of tumor control with fewer side effects and is easier on their lifestyle."

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Disclosure: Dr. Kuske is a consultant for Nucletron and for Cianna Medical.

RSNA is an association of more than 42,000 radiologists, radiation oncologists, medical physicists and related scientists committed to excellence in patient care through education and research. The Society is based in Oak Brook, Ill. ([RSNA.org](https://www.rsna.org))

Editor's note: The data in these releases may differ from those in the printed abstract and those actually presented at the meeting, as researchers continue to update their data right up until the meeting. To ensure you are using the most up-to-date information, please call the RSNA Newsroom at 1-312-949-3233.

For patient-friendly information on brachytherapy, visit [RadiologyInfo.org](https://www.RadiologyInfo.org).