

Radioactive 'seeds' save time, may improve outcomes for breast cancer patients

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(Medical Xpress)—Magee-Womens Hospital of UPMC is the first and only hospital in western Pennsylvania to offer radioactive seed localization, an innovation allowing breast tumors that cannot be felt to be precisely located before surgery.

The procedure offers greater convenience and may potentially improve outcomes for some [breast cancer patients](#). The seed is a tiny metal capsule containing a small amount of radioactive material which is inserted into the breast using a small-gauge needle and mammographic or sonographic guidance to mark the tumor site. During surgery, the seed can be detected using a special probe designed to detect the radioactive signature of the seed, allowing the surgeon to choose an incision site strictly based on cosmetic concerns and the location of the tumor. At Magee, the seed can be placed within the week prior to surgery, although most often it is placed shortly before surgery.

Without the availability of radioactive seed localization, certain [breast cancer](#) surgeries require patients to undergo a procedure called breast needle localization in which a preoperative wire is inserted into the breast to identify the location of the breast lesion. The wire can remain in the breast for several hours and is used to guide the surgeon during the operation later the same day.

"From a scheduling perspective, breast needle localization requires the patient to arrive at the hospital well in advance of her surgery, which often causes significant inconvenience for her, especially if an early-

morning operation is planned," said Jules Sumkin, D.O., chief of [radiology](#) at Magee. "In addition, the entrance site of the wire through the skin often is not where the surgeon prefers to make an [incision](#) when taking tumor location and cosmetic concerns into consideration. Radioactive seed localization solves both issues."

To date, Magee [radiologists](#) have performed over 500 radioactive seed localization procedures, making it the most experienced program in the country.

"This technology is convenient for the patient, surgeon and the radiologist, and, more importantly, shows promise in improving surgical outcomes," said Marguerite Bonaventura, M.D., a surgical oncologist with Magee who worked with Dr. Sumkin to bring the technology, which was pioneered at the Mayo Clinic, to Pittsburgh. "Studies suggest radioactive seed localization results in more precise removal of small breast cancers and reduces the need for a second surgery due to incomplete removal of the abnormal tissue."

Provided by University of Pittsburgh Medical Center

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