Tiny Technology Improves Care for Breast Cancer Surgery Patients

Network becomes first in Dayton to offer radioactive seed-localized breast surgery

Roxane Weighall, DO

Carol Sawmiller, MD

Advancements in breast imaging technology have enabled providers to detect and identify breast abnormalities in patients earlier than ever before—usually before a mass is even palpable.

While early detection allows for treatment to begin sooner, typically improving outcomes, it also presents a greater challenge in precisely locating and removing smaller or deeper masses.

A new approach

Previously, wire localization has been the only method to pinpoint certain breast lesions.

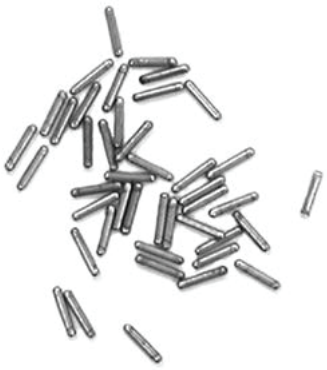
"Wire localization requires a wire to be placed near the mass immediately prior to surgery, and the patient has to be transported to the operating room with the wire protruding from their breast," says Kettering Physician Network breast surgeon **Roxane Weighall, DO**. "This can cause complications in scheduling as well as discomfort and limited mobility for some patients."

Radioactive seed localization (RSL) is a new approach offering a unique set of benefits. Kettering Health Network is the first in Dayton to offer this technology.

Collaborative care

"The addition and introduction of radioactive seed localization has been made possible through a collaborative effort between pathology, surgery, and radiology," says Kettering Breast Evaluation Centers Manager Susan Brake. "We're introducing this technology at Kettering Medical Center, and our goal is to launch it network-wide."

In RSL a radiologist places a "seed" measuring 5 millimeters—or about the size of a grain of rice—near the abnormal mass with ultrasound or mammographic guidance one to five days prior to surgery. The seed has a titanium shell and contains a minimal amount of radioactive iodine, which does not pose a risk of exposure to others.



Each seed is only 5 mm long, about the size of a grain of rice.

"The patient's body acts as a natural shield to the low radioactivity emitted from the seed," says diagnostic radiologist **William Meyers, DO**. "The placement of the localization seed is more convenient and comfortable for a patient. The patient also no longer needs to be transported with a wire protruding from the skin, a practice that carries inherent risk of displacement. This makes it a safer and more accurate, comfortable, and convenient alternative to the traditional method."

Precise localization

"The iodine inside the seed can be detected by the gamma meter used during a lumpectomy," says Kettering Physician Network general surgeon **Carol Sawmiller, MD.** "This results in extremely precise localization of abnormal tissue."

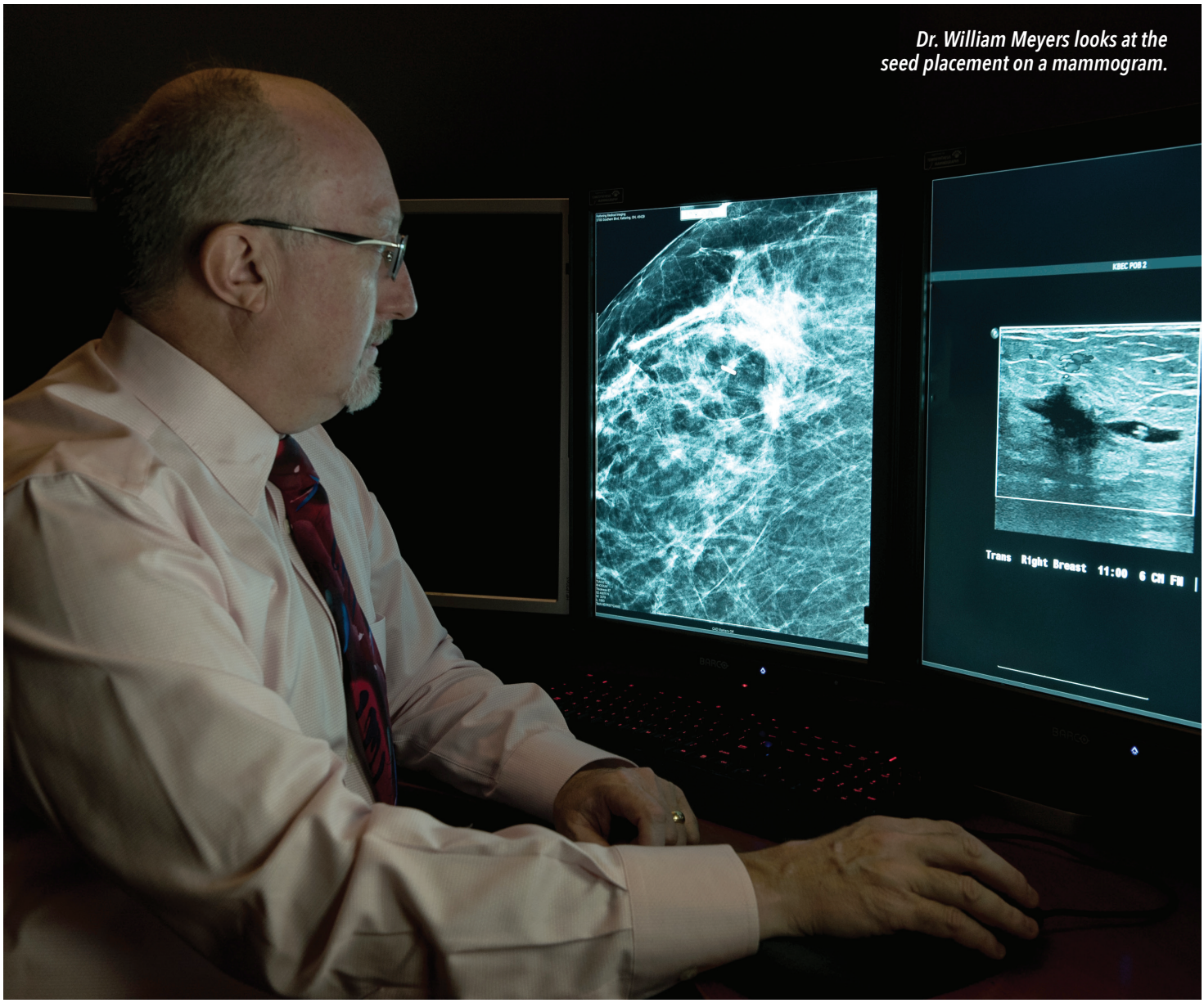
The seed can be seen on ultrasound and is removed with the affected breast tissue. Once the seed is removed, radioactivity is no longer present in the patient.

"Studies consistently show use of RSL as opposed to wire localization reduces the rate of having a positive margin, where cancer cells are found in tissue surrounding the cancer. Fewer positive margins reduces the need to return to

the operating room for a second excision," says Dr. Sawmiller. "This is a great benefit to patients, as well as a step toward reducing overall cost for treatment."

"The referral pattern for lumpectomies will not change," says Brake. "The introduction of RSL is just another example of how we are continuously striving to improve care by providing our patients with the most advanced technologies and more options."

For more information about radioactive seed localization call (937) 558-3711.



Dr. William Meyers looks at the seed placement on a mammogram.