

KEEPING CANCER *in the Cold*

CRYOABLATION USES FREEZING TEMPERATURES TO DESTROY TUMORS



MADELINE THULIN

After Madeline Thulin of Garden City, Mich., had a successful surgery for renal cancer, she hoped she was done with cancer for good. But a follow-up exam told a different story.

"I had surgery for renal cancer in 2011," says Madeline, 64. "Two years later, I learned I had liver cancer. I just about passed out when I got the news."

Madeline's doctor referred her to Karmanos Cancer Institute in Detroit, where she began chemotherapy in early 2014. Still, the liver tumor grew to nearly 4.5 centimeters within a year. She then met with Karmanos' Interventional Oncologist Hussein D. Aoun, M.D., who suggested image-guided cryoablation—something very different from traditional surgery.

"Cryoablation is a minimally-invasive procedure that uses extremely cold temperatures to destroy and treat tumors," Dr. Aoun says. "Under imaging guidance, we insert small needles through the skin into tumors, then create a lethal iceball to treat the targeted mass. The temperature at the center of the freeze approaches -140 degrees Celsius. Once the tumor freezes, the cells die and the body attacks and destroys the tumor. We also extend the frozen area one centimeter beyond the tumor to make sure the iceball covers all margins of the mass."

Doctors use cryoablation to treat localized kidney, liver and lung tumors, as well as soft tissue tumors (in areas such as the chest, abdominal and bone). Since cryoablation numbs surrounding nerves, the procedure is virtually painless. With no incisions, there is no scarring. Patients recover more quickly than after traditional surgery and typically resume regular activities within a day.

"The procedure is very effective, with more than a 90 percent success rate in most locations," Dr. Aoun says. "In the kidney, we have approximately a 97 percent success rate. Risks include bleeding and infection but they're relatively rare at less than five percent."

In April 2015, Dr. Aoun performed the first of two cryoablation procedures on Madeline's tumor. He then performed a second cryoablation on her that September to destroy residual cancer cells. Two years later, Madeline is feeling great with no new or recurring disease.

"Both procedures were incredible—I didn't feel anything and went home the next day," Madeline says. "I feel very blessed. Never give up when facing this kind of adversity. Stay strong, keep fighting and smile as much as you can. Most importantly, trust your caregiver. I'm exceptionally grateful to Dr. Aoun and his staff, who were always very courteous and treated me like family."

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Visit <https://www.facebook.com/karmanoscancer/videos> to view a "Facebook Live" conversation with Dr. Aoun about cryoablation techniques and outcomes.