

Cryoablation therapy is 100% effective against early-stage breast cancer

by Cliff Dominy, PhD

A Spanish study published in the *British Journal of Radiology* has reported a 100% reduction in early-stage breast tumours using cryoablation therapy. Cryoablation is a minimally invasive procedure that uses liquid nitrogen to freeze the tumours *in situ*. The technique is guided by ultrasound and was conducted in an outpatient setting.

The option was offered to older women diagnosed with early-stage breast cancer; their median tumour size was twenty-four mm. Despite having declined traditional surgery, forty-three of the forty-five eligible patients elected to undergo the cryoablation procedure. At the six-month follow-up, thirty-five of the tumours showed complete necrosis. By sixteen months, all forty-three of the patients were cancer-free.

Cryoablation therapy is a low-risk, highly effective option for treating breast cancer tumours. The study, whilst small, showed that the procedure was well tolerated and economical, with minimal side effects. The procedure takes less than an hour and does not require hospital admission. No healthy tissue is removed; just a tiny nick in the skin is necessary for the probe to enter. Patients report being able to resume their daily activities immediately.

IceCure Medical Ltd, an Israeli biotechnology company (Nasdaq: ICCM), has developed the cryoablation therapy called ProSense®. "This study is a good case in point that when women who elect not to have surgery, or are not eligible for surgery, are given the option, they overwhelmingly choose cryoablation to treat their breast cancer," stated IceCure CEO Eyal Shamir. The company plans to extend their ProSense technology to treat kidney, bone, lung, and liver tumours.

Cryoablation as a technique has its origins in the 19th century when Dr James Arnott attempted to "burn" breast and skin cancer tumours using a salt solution in crushed ice. Modern cryoablation trials began in the 1990s, culminating in the FROST trial in 2004. FROST reported an 89% tumour volume reduction in benign breast fibroadenomas.

Thanks to IceCure Medical Ltd and the ProSense® probe, patients with malignant tumours have more appealing, low risk and highly effective options available to them.

Further reading

- Holmes DR. Breast cancer care during a pandemic: an opportune time for cryoablation?. *Breast Cancer Res Treat.* 2020;182(3):515-521. [doi:10.1007/s10549-020-05724-0](https://doi.org/10.1007/s10549-020-05724-0)
- Thai JN, Sevrukov AB, Ward RC et al. Cryoablation Therapy for Early-Stage Breast Cancer: Evidence and Rationale, *Journal of Breast Imaging*, 2023; 5(6): 646–657, <https://doi.org/10.1093/jbi/wbad064>
- Littrup PJ, Freeman-Gibb L, Andea A, et al. Cryotherapy for breast fibroadenomas. *Radiology.* 2005;234(1):63-72. [doi:10.1148/radiol.2341030931](https://doi.org/10.1148/radiol.2341030931)