

Study proves targeted tumor freezing therapy increases ovarian cancer survival

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Ovarian cancer, which killed 15,000 American women last year, is one of the deadliest forms of cancer. A team of Wayne State University School of Medicine researchers recently proved that freezing tumors increases survival rates in ovarian cancer patients.

The "freeze and destroy" technique is an alternative for local treatment of [cancerous tumors](#), said Peter Littrup, M.D., professor of radiology in the School of Medicine and director of imaging core and radiological research at the Barbara Ann Karmanos Cancer Institute.

[Ovarian cancer](#) is the most damaging cancer to attack the [female reproductive system](#), with close to 22,000 women diagnosed each year, according to the National Institutes of Health. While surgery and chemotherapy have proved effective in treating cancer as a systemic disease, cryoablation is an option when the disease is in the late stages and is oligometastatic, meaning the tumors are limited in number and location.

Hyun Bang, M.D., a resident in WSU's Department of Radiology, presented the findings at the International Symposium on Endovascular Therapy in Miami, Fla., last month. In 98 percent of the 21 patients surveyed in the study, a survival rate of 56 months, or approximately 4.6 years, was reported. The majority of women whose tumors aren't successfully removed surgically – some 60 percent according to studies – survive only seven months to 2.5 years in comparison.

The study also concluded that medical costs were on average \$26,806 per life year saved, nearly 75 percent less than the current standard of \$100,000. (Average cost is \$15,000 per treatment.) Littrup credited Bang with recognizing the evidence of effective data and taking the initiative to prove his technique worked.

"We hit a home run," Bang said.

The WSU team treated 48 tumors on the soft tissue, liver and lungs of 21 women over seven years in an outpatient setting. The treatment is performed using an extremely cold needle inserted into the skin, using imaging technology such as ultrasound for guidance. The treatment, called cryoablation, causes less pain and faster recovery than surgery.

In the study, "[Cryoablation](#) of Metastatic Ovarian Cancer for Local [Tumor](#) Control: Improved Survival and Estimated Cost-Effectiveness," Littrup and Bang, along with a team of researchers, demonstrate that targeted therapy for tumors in ovarian cancer patients increases survival and lessens recurrence rates in patients in the very late stages of the disease.

Armed with at least seven years of data, Bang recognized the long-term effectiveness of the treatment and the financial benefits, leaning on his pre-doctoral experience in economics and finance. If you have enough evidence and proven data, "eventually, people will start listening," Bang said.

The team has published two papers related to the findings as they relate to kidney and lung cancers, with a third recently submitted on colon cancer.

Littrup has cryoablated approximately 1,000 tumors to date in various soft tissues and organs, starting with the prostate in 1992.

Provided by Wayne State University

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