

Turning Up The Heat On Cancer

New Treatment Harnesses Heat To Fight Tumors

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(CBS) Cancer remains the second-leading cause of death in the United States. Now, doctors are experimenting with a promising, yet basic tool to fight it: heat. **CBS News correspondent Elizabeth Kaledin** takes a look at how they're trying to do it.

When Emma Jean Wilson found a lump in her breast, doctors told her the prognosis was bleak. The cancer was "very rare," she says. "About one in three million, and only one percent is in your breast."

It was angio-sarcoma. Rather than rely on chemotherapy and radiation alone, Wilson decided to turn up the heat on her treatment — literally. She enrolled in a clinical trial at the Duke University Medical Center, becoming one of thousands of volunteers who, along with doctors, are hoping that something as simple as heat can improve standard cancer treatment.

"They said, 'what we'll do is we'll fix a table and your breast will lay in a bath of water and we'll sort of microwave your breast' ... and I said 'what?'" Wilson laughs. "That's really what it is."

Duke is one of a handful of research institutions pioneering a new field called hyperthermia. While scientists have known for centuries that heat has healing powers, Duke's Mark Dewhirst has figured out how to harness that heat and direct it right into tumors.

"The temperatures that we are looking for are at the range between 104 and 113 degrees Fahrenheit," Dewhirst says. "At that range, we get the effects we want but we don't burn the tissue."

QUOTE

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Mark Dewhirst, Duke University Medical Center

Wilson says the treatment can get uncomfortable by the end of a session, but the benefits may well be worth the discomfort.

Dewhirst and his colleagues know that the heat weakens tumors in two crucial ways: It damages tumors' cells and it makes the tumors more vulnerable to radiation and chemotherapy

"We can deliver 30 times more drug to a tumor like this than you can with just the free drug itself," he says.

The Duke team is turning up the heat on some of the most stubborn cancers: breast, melanoma, cervical and ovarian. They're designing and developing intricate heating systems as they go. In the next several months, they'll be able to use new equipment to heat up entire bodies in people whose cancer has spread.

Once this study is over, the next step is to get heat therapy approved by the FDA and on the market. That will probably take a few years. But the goal, says Dewhirst, is to one day soon have heat actually being "prescribed," just like a drug.

"I would hope we can have dramatic anti-tumor effects," he says when asked if heat can be a cure. "Whether or not we can cure them is hard to know."

But for now, Wilson isn't worried about a cure. She's content to sit back and think warm — really warm — thoughts.

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