

New breast cancer test under study

July 22 2008



Whether a painless, portable device that uses electrical current rather than X-ray to look for breast cancer could be an alternative to traditional mammograms is under study at the Medical College of Georgia. Pictured here are study coordinator Charlene Weathers and Dr. James Craft, MCG radiologist and principal investigator. Credit: Phil Jones

Whether a painless, portable device that uses electrical current rather than X-ray to look for breast cancer could be an alternative to traditional mammograms is under study at the Medical College of Georgia.

MCG is one of 20 centers internationally and the only place in Georgia studying new technology developed by Z-Tech Inc., to compare traditional mammograms with impedance scanning, a technique based on

evidence that electrical current passes through cancerous tissue differently than through normal tissue.

This phase of the study will focus on women age 40-50. Older women have less dense breast tissue so cancer is easier to find, says Dr. James Craft, MCG radiologist and principal investigator on the study.

Mammograms, also performed in the study, are more accurate in this population, so this phase will be a tougher test of the new technology, he says. The first phase of the study, which began in 2005, was open to women of all ages.

"Normal breast tissue is very dense, especially in younger women, and can hide tumors," Dr. Craft says. "While we've known for a while that water flows more freely through cancerous cells, we also know that electrical current flows easier through cancerous and tumor tissue."

The Z-Tech scan works by placing a flower-shaped grouping of electrodes over each breast and sending a small, painless amount of electricity through them. Unlike traditional mammography, the scan does not involve breast compression or radiation.

"It's like doing an EKG of the breast," Dr. Craft says.

A computer immediately calculates and presents a report based on the electrical signature of the breast tissue. Rather than waiting on breast image from a traditional mammogram, the computer immediately notes whether the scan is positive or negative for cancer.

However, for study purposes, neither Dr. Craft nor the patient will know the results. Patients must undergo a mammogram within 90 days, which Dr. Craft interprets. Z-Tech compares those results to the electrical study.

The hope is that the new test – called HEDA for Homologous Electrical Difference Analysis – will provide an alternative to mammograms. While Dr. Craft believes that having this test should help find more cancers, he doesn't think it will replace traditional mammography.

"This method doesn't use radiation, is portable and there is no pain associated with the squeezing that mammograms require," he says. "I can see it being used as an additional test. I don't think it will replace mammography, but it could increase our chances of catching breast cancer."

The second phase of the Z-Tech trial is open to women age 40-50 having routine mammograms as well as those who have a suspicious lump scheduled for biopsy.

Source: Medical College of Georgia

Citation: New breast cancer test under study (2008, July 22) retrieved 24 April 2024 from <https://medicalxpress.com/news/2008-07-breast-cancer.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--