## **Revolutionary Technology Improves Accuracy of Clinical Breast Examinations**

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MammaCare Corporation, recognized for advancing breast examination standards announced a revolutionary, self-administered clinical breast examination (CBE) technology that improves and objectively confirms practitioners' ability to detect very small breast tumors while reducing false positives. MammaCare scientists developed a series of tactually accurate breast models containing small, simulated breast cancers that are considered the standard for measuring examination proficiency. The challenge was to find a way to link the models to an intelligent device that could accurately translate the examiner's subjective, tactual sensations into digital code. The National Science Foundation (NSF) supported this effort leading to an engineering breakthrough that digitally replicates and displays the sensations fingers experience while palpating breast tissue and detecting tumors.

A novel laptop controlled interface guides trainees palpating fingers through exercises on a series of breast models until they are able to find the tiny simulated tumors without falsely "detecting" non-existent ones. They must successfully perform the requirements of each learning task before the simulator's program will present the succeeding ones.

Initial trials of the simulator at Mayo Clinic found significant gains in sensitivity (finding tumors that are present) and specificity (not finding tumors that are absent). The MammaCare and Mayo Clinic teams presented the first research report at an international breast cancer congress in July. At the request of the VA's Women Veterans Health Care Program MammaCare dedicated the first three months production of the simulator to optimize breast examination practices for VA medical and nursing staff who provide healthcare for nearly two million women veterans.

Dr. HS Pennypacker, a pioneer in developing instructional technologies, designed the training software that incrementally shapes each component of breast examination and detection skill required to meet proficiency standards. A cofounder of MammaCare, Pennypacker said, "If we can teach fingers to read Braille dots, we can surely teach fingers to find suspicious lesions in breast tissue." After observing the Simulator improve breast examination performance, Dr. Mary Mehn, MammaCare's Director of Education named it; "Smart Fingers". She noted, "Breast cancer screening depends on the quality of manual examinations and mammograms. Both must be performed skillfully. We finally have the method to reach and teach every hand that examines women."

## Availability to Educational and Clinical Institutions

MammaCare will train and certify faculty or clinical staff member(s) to launch and sustain CBE training at their institution. The training programs will be launched at five US nursing and medical education sites whose faculty participated in advancing Published on Medical Design Technology (http://www.mdtmag.com)

breast examination skills, and in Germany. MammaCare will also accept reservations from university based simulation centers. Once installed, the current fees and costs to certify a Clinical Breast Examiner will decrease sharply according to Mark Goldstein, MammaCare Co-founder and Chairman.

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