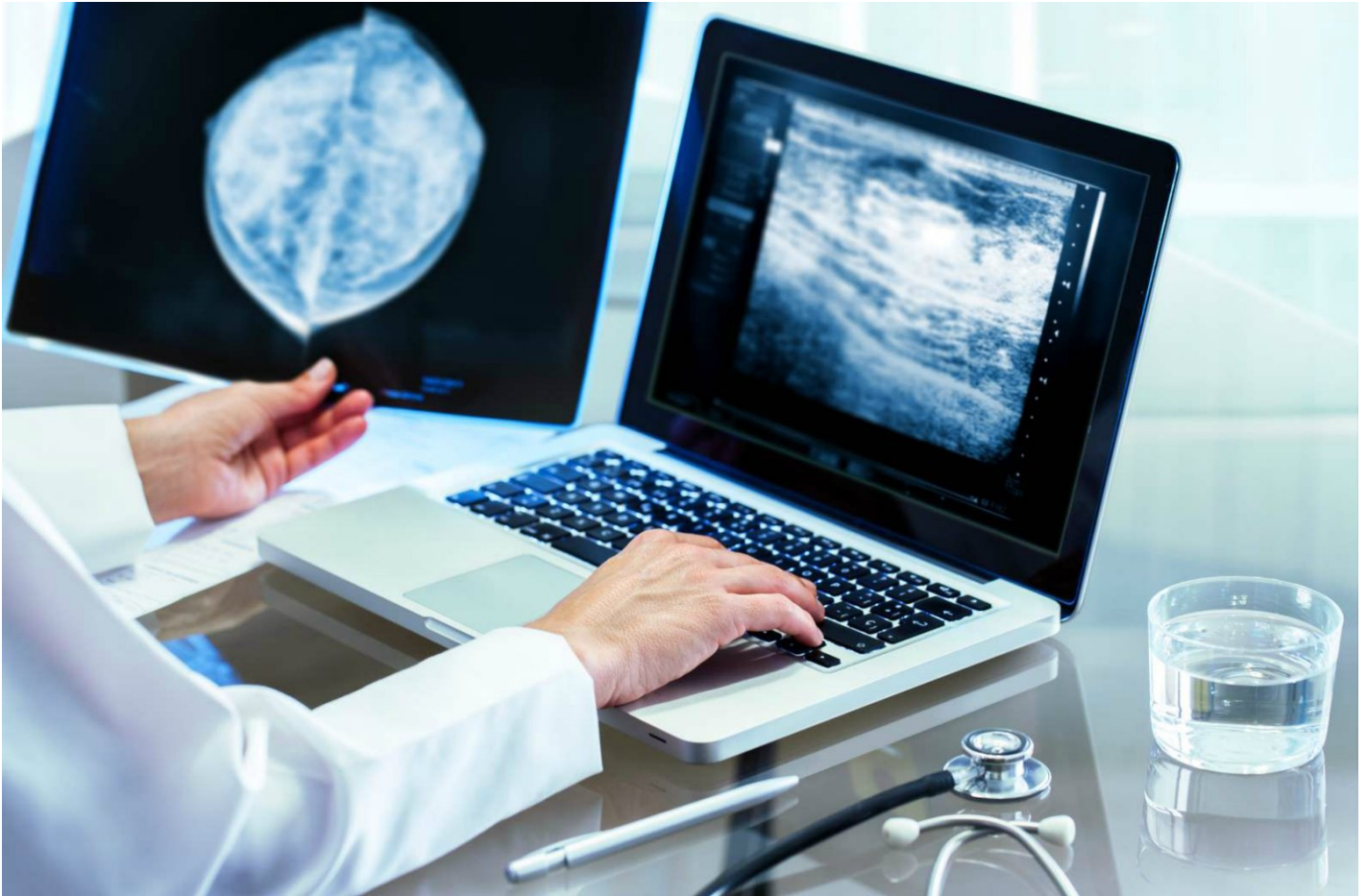# Breast CT: A New Alternative To Mammography

University of California, Davis (UC Davis)

Computed tomography (CT) is used extensively to identify tumors and other abnormalities in the brain, abdomen and pelvis. In contrast to medical X-rays, which produce a single-layer 2-D image, a CT scan records hundreds of images of multiple tissue layers and assembles them into a 3-D representation.

> *A team working at University of California Davis Cancer Center has developed a breast CT device they believe provides a more comfortable and potentially more sensitive alternative to X-ray based mammography to detect breast cancer.*

The breast CT device, currently in a Phase II investigational trial, is the invention of Drs. John Boone, professor of radiology at UC-Davis, and Thomas R. Nelson, professor of radiology at University of California, San Diego. CT has not typically been applied to breast cancer detection because of concerns over the radiation dose required. The inventors solved this problem by designing a CT device that scans each breast while the patient lies face down on a special table. The radiation exposure in the breast is equivalent to that of a traditional mammogram, and the thoracic cavity is not

irradiated at all, as it would be in a conventional CT scanner.

The first 21 patients in the ongoing clinical trial reported that the CT breast scan, which does not require breast compression, caused them less discomfort than mammography. The CT detected 19 of the 21 tumors initially identified by mammography, and Dr. Lindfors believes the prototype machine and method of scanning can be modified to improve on this detection rate. Once the Phase II trial is complete, a trial directly comparing breast CT and mammography will be the next step in moving the technology forward.

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