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Three-Dimensional Breast Anatomy Imaging System

Tech ID: 20688 / UC Case 2007-126-0

BRIEF DESCRIPTION

Researchers at the University of California, Irvine have developed a breast anatomy imaging system that combines a position tracking system with a handheld optical imaging device. This combined technology allows the researcher and/or clinician to image cancerous versus normal breast tissue at intervals throughout the course of the therapy. A non-invasive near-infrared technology based upon diffuse optical spectroscopy (DOS) has been developed to quantitatively monitor tumor response to the pre-surgical chemotherapy. A tracking device associated with a handheld device can measure a region of interest in the breast tissue at each visit with approximately 1 mm system accuracy. Thus, diffuse optical spectroscopy is used to monitor tumor response in patients with locally advanced cancer throughout the course of the therapy.

APPLICATIONS

One of the advantages of this imaging system is the accuracy with which it can image breast tissue and monitor subsequent changes throughout the course of therapy. With this breast anatomy imaging system, clinicians can overcome the limitation of conventional technologies and accurately track the position of the optical probe as measurements are recorded. This will improve the clinician's ability to measure the same region of interest and increase the measurement sensitivity by minimizing uncertainties involved with optical handheld probe position placement.

BACKGROUND

Pre-surgical chemotherapy is a treatment commonly used for locally advanced breast cancer. The patient's response to the pre-surgical chemotherapy is monitored to improve survival and reduce morbidity. In order to accurately distinguish between tumor and surrounding breast tissue, a method that can quantitatively monitor tumor response to this chemotherapy needs to be developed.

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	8,244,332	08/14/2012	2007-126

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OTHER INFORMATION

KEYWORDS

breast imaging

CATEGORIZED AS

- » **Imaging**
 - » 3D/Immersive
 - » Medical
- » **Medical**
 - » Devices

» Disease: Cancer

» Imaging

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2007-126-0

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