Transillumination for breast cancer risk assessment

Background

We are currently conducting a study to demonstrate the ability of optical transillumination to assess breast cancer risk and to potentially identify the presence of breast cancer. Normal white light is shone into the tissue and the light that leaves the breast on the other side from the source is detected and analyzed. Transillumination is non-invasive, has been deemed safe to be used frequently for women of all ages and therefore can be used for those situations where mammography is not an option, such as in younger women.

The ultimate goal of this study is to develop a safe and non-invasive technique benefiting women, for example by assessing their risk for developing breast cancer at a younger age, as well as identifying light signatures capable of detecting the presence of breast cancer.

Measurements will be taken during a single visit to the Princess Margaret Hospital. The single visit will be scheduled at your convenience. All optical measurements are non-invasive and no blood samples or biopsies are required. No plate compression of the breast tissue is required. This study is not intended to replace mammography. Please do not alter your habits of a breast self-exam or other screening should you have entered a screening program.

Description of Research

If you decide to take part in this research you will be asked to come to the research department of Princess Margaret Hospital to meet with a female research assistant. Your single visit will be scheduled at your convenience, preferably within 3 months of being contacted by the researcher(s). A visit should take between thirty and forty-five minutes. You will be reimbursed for all of your travel expenses to and from the hospital. The visit will encompass the following:

1. The consent form for the study will be signed at the visit to release the information obtained at the appointment and to release your mammogram and/or imaging/pathology/surgery reports. This information will only be seen by the research team and will not be associated with your name or other information that would allow you to be identified.
2. Before the transillumination procedure we will take your height and your weight and then measure your waist and hip circumference with a tape measure.
3. Next we will be measuring the melanin content of your skin by placing an optical device onto your skin to illuminate the skin with white light. This measurement will take about 20 seconds.
4. The technician will then examine the breast tissue using Transillumination Breast Spectroscopy (TIBS). This will involve undressing from the waist up, sitting at an examination table and undergoing eight measurements, four per breast. These measurements will be taken in the dark (2 minutes each measurement maximum) in a similar fashion to those in mammography but with a minimal amount of pressure on the breast tissue through the application of a thumb size light guide on the breast tissue.
5. You will also be asked to complete a questionnaire during the visit including information about your age, diet, family history of breast cancer, ethnic background, parity and menopausal history.

You can resume normal activities right after the visit. Any information that you provide will be kept strictly confidential, and it will not be possible to identify any individuals when the results are published. You have the right to leave the study at any time and can refuse to answer any specific question(s).