

## Different Types Of Breast Cancer Screening

### The Role of MRI for Breast Cancer Screening



There has been a great deal of debate regarding the use of magnetic resonance imaging (MRI) to detect breast cancer.

Unlike mammography, which uses low dose x-rays, MRI's do not expose the patient to ionizing radiation. Additionally, the false-negative (missed cancer) rate for mammography is around 10%. However, MRIs have high rate of false positives which, like a false alarm, can lead to unnecessary biopsies. Although some studies indicate that MRI may be better able to detect certain breast cancers compared with mammography, the cost, high rate of false-positives, and inconsistent standards for performing MRIs have made broad use impractical. This year, new guidelines and findings from several studies provided additional guidance about how MRI should be used for breast imaging:

1. The American Cancer Society released guidelines stating for the first time that evidence supported routine MRI screening for patients at high risk of developing the disease - those with a 20% or greater risk of developing breast cancer over their lifetime, including individuals with strong family histories of breast cancer, certain genetic mutations, and other known risk factors.
2. A study suggested that patients recently diagnosed with cancer in one breast may benefit from MRI of the other breast to increase the chance of detecting additional cancers that may have been missed by mammography or clinical examination, since individuals who have had

cancer in one breast are at increased risk for developing cancer in the other.

3. A second study found that MRI is significantly more sensitive than mammography for detecting ductal carcinoma in situ (a non-invasive, precancerous condition in which abnormal cells are found in the lining of a breast duct). MRI was particularly effective at finding those tumors that are more likely to be biologically aggressive and have the potential to turn into invasive breast cancer.

### Mammography



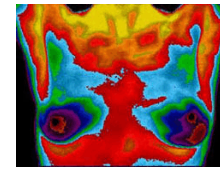
Unless a suspicious breast mass in a man is present, routine screening mammography is not recommended. The mammogram is abnormal in 80 to 90 percent of MBCs, and can usually distinguish between malignancy and gynecomastia. In one study, the reported sensitivity and specificity rates of mammography for the diagnosis of MBC were 92 and 90 percent, respectively.

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### Thermography

#### What is thermal imaging?



Thermal breast imaging, commonly referred to as breast thermography, is a quick, safe, accurate, non-invasive test that can often detect changes that accompany breast disease earlier than breast self-examination, doctor examination or mammography.

The earliest stages of breast cancer are accompanied by changes in blood supply and altered breast temperature. These changes can often be seen on a thermal image, before a visible tumor develops.

Our thermal imaging system scans the breasts using an extremely sensitive thermal imaging camera that requires no radiation or breast compression. The resulting images are evaluated by experienced technicians using sophisticated technology to determine if the breasts appear to be at risk for disease.

#### What are the doctors looking for in a breast thermography photo?

Breast disease alters the breast temperature and the surrounding blood supply creating reliable signs that can clearly be seen on a thermal image. Your doctor is looking for the first signs of an existing or potential problem. Early recognition of a problem allows for early treatment of the problem.

#### What is the main difference between breast thermography and mammography?

Mammograms use radiation to distinguish dense anatomical structures consistent with tumor

growth. Thermograms look at physiological changes that accompany breast disease. Thermograms don't see tumors. They detect vascular activity and temperature

### **How often should women get breast thermography?**

Early thermal imaging photos establish a baseline from which to monitor breast health. Comparative studies allow for early detection of changes. Thermography is recommended on an annual basis, for women 30 and over, but may be recommended at 3 to 6 month intervals when there are suspicious thermograms or other diagnostic readings; when evaluating the effects of hormone replacement or the efficacy of a treatment; or when there is any other cause for concern.

### **What does my thermography report tell me?**

Your thermography report evaluates your risk for breast cancer. According to level of risk, you may be advised to follow a home program to reduce risk; to consult a specialist for an intensive, personalized risk reduction and prevention program; or to undergo further diagnostics.

### **What can I learn from thermography?**

Thermograms take the temperature of the breasts. Temperature differentials may be normal for you, or may reveal underlying physiologic changes. These changes may reflect infection, inflammation, neurology, hormonal imbalance, or cancer or pre-cancerous conditions. Thermograms can track changes as physiology returns to normal.

### **Are there any limitations or disadvantages to breast thermography?**

Breast thermography does not replace

mammography. It may not detect slow growing cancers where vascular levels remain largely unchanged. When breast exams, thermography, and mammography are used as complementary diagnostic techniques, the accuracy rates in detecting breast cancer increase dramatically.

### **What happens during a breast thermography exam?**

The whole exam takes place behind the privacy of a screen. You will not be directly seen nor touched by the clinician. The only discomfort from the exam may be chilliness, as the room has to be kept at a specific, cool temperature for the pictures to be accurate. The clinician will instruct you to disrobe from the waist up. You will be asked to sit or stand with your hands on your hips (hands not touching your breasts) for about 15 minutes, while your upper body.

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Currently there are no established thermographic guidelines for male breast cancer examinations. Since male breast cancer generally occurs between ages 60-70, and thermography has been shown at times to signal signs of risk for cancer up to 8-10 years prior to a mammogram, male breast thermography examinations could responsibly be started at age 50 as a diagnostic aid. For those men considered to be high risk according to family history, genetics or other conventional risk factors, this could be performed at age 40 or younger if they were interested in starting a prevention program and using thermography as biofeedback.

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### **OUR MISSION:**

To educate the world about the risk of breast cancer in men, and to provide preventive and reactive measures to cancer through education and research.



## **BREAST CANCER SCREENING OPTIONS**



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