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## Common Questions about Breast Thermography

### Is Breast Thermography better than Mammography?

A well-cited study concludes that x-ray finds 91% of cancers 10mm in size but only 26% of cancers 5mm in size\*\*. Breast thermography can detect heat in the breast from physiological changes that start when a tumor is only 1 mm in size. It is common for women to get an early warning from thermography a year or more before it is found by any other screening test.

### What if I have dense breasts or augmentation?

The accuracy of breast thermography is not affected by breast density or breast augmentation.

### Should I stop getting X-ray Mammograms?

No. We recommend most women aged 50-74 get a mammogram every two years. In addition, most women should at least get a thermogram starting at age 35, and then every two years starting at age 40. Women in higher risk categories may start sooner.

### How is thermography preventive?

Hormonal and inflammatory changes can cause breast diseases associated with breast cancer. By identifying and addressing these risk factors through changes to a patient's diet, lifestyle and using other preventive approaches, a patient can have a meaningful reduction in their lifetime breast cancer risk.

### I need a mammogram every 6 months. Help!

Yes. Only about 3-10% of women who are called back for more mammograms have breast cancer. Breast thermography can help you decide whether more diagnostic imaging is really necessary.

### Mammograms are uncomfortable. What's this like?

Breast Thermography is non-contact imaging from an infrared medical camera 5-7 feet away. We take digital infrared pictures of the breast region including areas of the upper breast missed by x-ray. There is no compression of the breast at all. We take 2 sets of images, before and after you put your hands in cold water.

### Do you interpret the images you take?

We use Thermascan Labs, the largest thermography reference laboratory in the US, to analyze our images and prepare your report. Thermascan's expertise is based on 30+ years of analysis and over 3 million images.

## The Perfect Complement to Traditional Mammography

Mammogram use is on the decline. It is now only primarily recommended every two years starting at age 50 because of its limitations in finding breast cancer. This leaves younger women exposed, and nearly every woman knows someone diagnosed with breast cancer before age 50.

What are the limits of mammography? Research shows that it has difficulty finding small breast cancers. It is estimated that mammography only detects about 1 in 4 breast cancers 5 millimeters in size. By 10 millimeters, it's about 90% accurate\*\*. The end result is that by the time breast cancer is detected by x-ray mammography, it's typically 12-16 millimeters in size and close to metastasizing.

That's simply not early detection, and why younger women who tend to have faster growing and hormone fueled breast cancers, are not benefiting. For women with dense breasts, mammography is even less accurate, and the FDA now requires women with dense breasts be informed of this problem.

Breast Thermography works differently than x-ray mammography. While research is evolving, it has shown to be effective at detecting physiological changes associated with breast cancer when a tumor is as small as 1 millimeters in size.

In addition, our methodology of Breast Thermography can help identify treatable breast diseases and hormonal changes that may significantly increase a woman's lifetime risk of breast cancer. This two-pronged approach supports both the early detection and preventing breast cancer in the first place.

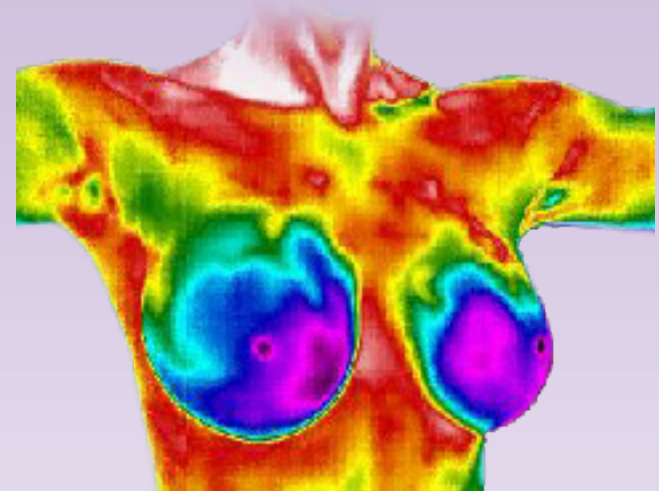
Breast Thermography can support both early detection and breast cancer prevention in ways that x-ray mammography alone cannot.

\*\* "Breast Cancer tumor growth estimated through mammography screening data", Breast Cancer Research 2008, 10:R41



698 West Foothill Boulevard • Monrovia CA 91016  
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# Breast Thermography



## INFRARED BREAST CANCER SCREENING

Recommended every 2 years for most women, 35 to 70 years of age

Complements X-ray Mammography for the best protection available

No harmful ionizing radiation



# "An abnormal infrared image is the single most important marker of high risk for developing breast cancer."\*

## Breast Thermography

In its early stages, breast cancers create distinct heat patterns that can be detected by infrared medical cameras and highly-trained clinicians. State of the art Breast Thermography scans are the best way to help make sure breast cancer is detected early.

Research has shown that an abnormal heat pattern detected by Breast Thermography is the single most important marker of breast cancer risk.\* The heat signal often strengthens for months to years before breast cancer can be detected by a traditional x-ray mammogram. Together, both provide the ultimate screening protection against the risks of developing breast cancer.

Our method of Breast Thermography also helps us screen women for treatable breast diseases and hormonal imbalances that can increase a woman's lifetime risk. Our hope is a world where breast cancer is both detected in its earliest stages or prevented from happening in the first place.

## Advantages

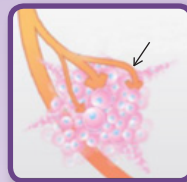
- May screen as a potential breast cancer a year or more before x-ray mammography.
- Not affected by breast density. It's also ideal for women with breast implants or augmentations.
- Can be used to help screen for hormonal changes or breast diseases that increase breast cancer risk.
- Screens the entire breast region, including areas missed by x-ray mammography.



## How It Works

**Angiogenesis:** By about 1mm in size, a breast cancer has developed its own direct blood supply through a process called angiogenesis. Angiogenesis creates a heat pattern that can be detected by advanced breast thermography imaging. That's important because X-ray mammography can miss 3 out of 4 breast cancers 5mm in size\*\*. Research also shows that cancers with greater angiogenesis are more dangerous, and "hotter", so they are easier to detect.

Neo Angiogenic Blood Vessel



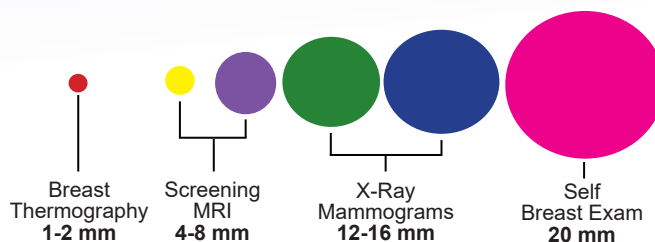
**Vasodilation:** Breast cancer conditions prevent local blood vessels from constricting normally. When abnormal hot spots or patterns are identified, blood vessel vasodilation helps differentiate between likely breast cancer and benign breast disease. We use a cold water contrast to evaluate normal versus abnormal vasodilation. Patients who exhibit an abnormal physiological response are at a much greater risk of having breast cancer.

Dilated Vessel



### Early Detection & Survival Rates

*Breast Thermography helps detect breast cancer when it is small. If found and treated while still confined to the breast, the 5-year survival rate is 90% or more.*



## Thermal Imaging Session

An imaging session takes about 25-30 minutes and is performed in a temperature controlled room using a FLIR infrared medical camera. We take a series of 6 digital images, including three that are taken after submersing your hands in cool water for 60 seconds. The images are sent to Thermascan, a reference laboratory, for evaluation and reporting.

## Breast Imaging Report

Most imaging reports are available in 3 to 7 days. Stat reports are 1-2 days and available for a fee.

Most patients have a negative score (TH-1/2). We provide these results directly to the patient or their referring physician or primary care provider. Some patients have an elevated score (TH-3 or higher) and/or need to consult with a Doctor about their results. You may consult with Dr. Wicher, our medical director, or we will forward your results to your referring Doctor or any doctor you prefer, to evaluate the results of your thermogram with you.

## Preventive Medicine

Dr. Jennifer Wicher has been using thermography since 2009 and is an expert in preventive and functional medicine. She is ready to help you or your referring Doctor understand your results and provide you with tools you can use to help maximize your breast health and help protect you from breast cancer.

Depending on the scope of your thermography follow up consultation, Dr. Wicher can provide:

- A review of your thermography results
- A comprehensive review of your personal risk factors, including diet and lifestyle factors
- A screening for hormone imbalances
- A personalized treatment plan
- Referrals for ultrasounds, mammograms or other medical tests as needed