

Understanding Your Breast Thermography Report

By "Safe Body Imaging Center"

Most often medical reports are complicated and difficult to understand. We've put together this overview to answer frequently asked questions in order to make it easier to understand your thermography report. If you have any questions about the medical terminology used in your thermography report, just quickly Google it for a definition and clarification.

One of the most commonly asked questions is how a breast thermogram is analyzed and what the data means. Under the quality assurance guidelines established by the International Academy of Clinical Thermology, strict pre-imaging preparation and imaging laboratory protocols are followed first before each patient is imaged. Using specialized medical infrared cameras coupled to sophisticated computerized image processing system, the heat emanating from the surface of your body is generated as an image. The image displays both the intensity of the heat and the course of the blood vessels. Each breast is compared to itself and the opposite breast against a research established normative database. Areas that show abnormal blood vessel patterns are assigned a value. Temperature data is also taken and compared as a difference between the same areas on the opposite breast. This is known as a temperature differential or delta temperature (Delta-T). These temperature readings are also assigned a value. When the blood vessel pattern and temperature values are combined a TH (thermobiological) grading is produced. Each breast is given a TH grading.

So what does this all mean? Breast thermograms are graded on a scale from TH1 to TH5. As TH values rise from the TH3 range and above there is increasing risk that an abnormal process might be present, or that you may be at a higher risk for cancer in the future.

Images graded TH1 or TH2 - What does this mean?

Thermograms at this level are considered normal. There are no suspicious hot areas or blood vessel signs. The only difference between a TH1 and a TH2 is that a TH1 breast has either very few blood vessels or none at all. If you are thinking that your goal should be to strive for a TH1 you would be wrong. TH1 and TH2 thermograms are both variations of normal. A little more than 95% of all TH3 thermograms are also normal.

Images graded TH3 - What does this mean?

Thermograms at this level are considered questionable, but not abnormal. The majority of TH3 thermograms (95%) normalize in time or remain stable due to your own unique physiology. The remaining 5% are a combination of current risk, future risk, and false-positives. This is why it is important for you to return for a follow up thermogram. We need to know if you fall into the 5% category or the majority that are normal. Following established guidelines, if after one year of closer observation (thermograms taken at 6 months and 1 year after the initial exam) things remain stable or improve thermograms will be recommended at the normal annual intervals.

Keeping in mind that some of the remaining 5% are at current risk, there is a chance that your thermogram may be an indication that something is going on. In order to investigate this, and to protect your health, follow-up structural imaging is recommended (e.g. MRI, ultrasound, mammography). Please discuss with your doctor what type of structural imaging would be best for you.

Images graded TH4 or TH5 - What does this mean?

Thermograms at this level are considered abnormal and carry a higher risk. An abnormal thermogram may be indicating that something is going on. In order to investigate this, and to protect your health, further testing is

recommended. Depending on any recent imaging you may have had, a follow-up mammogram, ultrasound, or MRI would be recommended. Please see your doctor for the follow-up testing recommended in your report.

Another possibility is that your thermogram may be acting as a warning sign or it may be a false-positive. If your follow-up tests show no suspicious findings, and your thermogram remains abnormal over time, the thermogram may be a future warning of higher risk. This warning may give you a chance to make changes. It lets you know that you need to work closely with your doctor to carefully monitor your breasts and make positive changes that will decrease your risk factors and improve your breast health. It is also very important to return for follow-up thermograms. Following established guidelines, the initial follow-up is recommended at 3 months with a second 6 months later. If no thermal changes are seen, follow-up thermograms are recommended every 6 months until improvements are noted.

What if my report says that I need to have follow-up structural imaging such as an Ultrasound, Mammogram or MRI?

Remember that a certain percentage of TH3 thermograms may be a warning of a current risk. TH4 and TH5 thermograms are indicators of increasing risk. As such, follow-up structural imaging is recommended to investigate this further. Keep in mind that the doctor will not ask for follow-up structural imaging every time you have a thermogram. He will only ask for follow-up tests if there is a reason for one. A logical sequence of testing needs to be followed in order to protect your breasts and your health. This is the same action that would be taken if you had a suspicious mammogram. Neither mammograms, ultrasounds, MRI or thermograms can tell you if you have cancer, further tests are always necessary to investigate this possibility.

If structural imaging is recommended such as a mammogram, ultrasound, or MRI, why would I want to continue having thermograms?

This is a very logical question. The answer is based on the current health care approach to breast cancer screening. Depending on a woman's age, she will be advised by her doctor to come in at certain intervals for a physical examination of her breasts along with a mammogram. Why do you need to have a physical examination of your breasts; isn't the mammogram enough? The reason for this is that a certain number of breast cancers will not be detected by a mammogram, but will be found on a physical exam. As such, both the mammogram and the physical examination of the breast are adjunctive procedures – they are not to be done with the exclusion of the other. This is the same for thermography. Since no one imaging procedure or test will warn of 100% of all cancers, a multi-modal approach to screening provides the best in early detection. Interestingly, and of good advice, the American Cancer Society is currently recommending that women who are at high risk \ breast MRI to their mammograms.

You may have also experienced this situation – a mammogram was done only to need a follow-up ultrasound screening. Here again an ultra-sound is another adjunctive screening procedure that had to be added to provide for a better chance for an accurate diagnosis. This is a very common in the medical field. With thermography you are receiving a physiological look at the breast that no other screening technology can provide. When adding thermography to your regular breast health screening, you are benefiting from four things that no other technology can provide:

- 1.) The earliest known risk marker for the current or future development of breast cancer – this alone could save your life.
- 2.) An individualized future risk assessment based on your own unique physiology and not just your family history.
- 3.) An objective risk assessment technology for women under 40 where most breast cancers are more aggressive.
Only a pathologist can tell if you have cancer or not!
- 4.) And possibly one of the most important screening tools for use in breast cancer prevention.

I have a lump or pain but have a normal mammogram. Does this mean I don't have cancer?

No, a normal mammogram does not mean an absence of cancer. In the same situation, a normal ultrasound, MRI, or thermogram cannot rule out cancer because no imaging procedure is 100%.

Research studies show that there are "cold" cancers may not show up on imaging. However, if you have a normal thermogram with a lump and/or pain you should discuss this with your doctor for further screening.

My report mentioned a blood vessel pattern that may be caused by hormones or dietary phyto-estrogens. What does this mean?

Certain thermographic signs may suggest the effects of hormones in the breasts. Since an important risk factor for the development of breast cancer may be an imbalance of hormones in the breast, reducing your overall lifetime exposure may play a significant role in breast cancer prevention. Thermography may be the first signal that alerts your doctor to this possibility. This is why it is necessary for you to get tested first with a saliva test in order to determine if you have a hormone imbalance, and then to determine the proper treatment. Proper treatment cannot be prescribed if the cause is not known first. DO NOT take hormones before getting tested. YOU CAN ORDER A SALIVA HORMONE TEST KIT FOR IN HOME USE @ www.Safebodyimaging.com

Phytoestrogens such as soy and flaxseed have also been shown to produce this same blood vessel patterning. Considering that the identical thermal signs produced by a hormone imbalance may be caused by phytoestrogens, a certain level of concern is reasonable. In most patients, it is observed that when soy or flaxseed use is stopped the blood vessel patterning reduces significantly or disappears altogether. Many women also report that their breast pains, tenderness, and swelling resolve when they stop using phytoestrogens. If you are currently using soy, flaxseed, or other phytoestrogens, it is recommended that you see your doctor to evaluate whether or not their use is compatible with your physiology.

What does all the information in the findings mean?

This area of the report contains the results from the visual and computerized analysis of your images. Most of this data was used to determine your TH grading. We understand that some of the terminology is hard to understand, but this is necessary for your doctor and other imaging personnel's use. If you are wondering what all of this information means, look at your TH grading. The level of risk is what this is all about.

My report says that I should return for another thermogram at a certain date. Is this important?

Yes, this is extremely important. Thermography is very different from other imaging procedures. It has the ability to detect subtle signs of blood vessel changes (angiogenesis) in the breast – blood vessels that may be involved with the growth of a cancerous tumor. These changes may occur far in advance of the formation of a large tumor mass. This makes the procedure one of the earliest risk indicators of a growing cancer. The images produced are also as unique as your fingerprint. Studies show that by carefully monitoring a woman's "thermal fingerprint" early detection may be enhanced. This is especially important in patients with "persistent" TH4 or TH5 thermography reports.

There are 4 very important reasons to return for regular thermograms;

1.) EARLY SIGNS THAT A BREAST CANCER MAY BE DEVELOPING

Angiogenesis, or new blood vessel formation, is necessary to sustain the growth of a tumor. Breast thermography may be the first signal that such a possibility is developing.

2.) INDIVIDUALIZED BREAST CANCER RISK ASSESSMENT

Women with a family history are definitely at greater risk for breast cancer, but 75% of women who get breast cancer have no family history of the disease. Regardless of your family history, if a thermogram is abnormal you run a future risk of breast cancer that is 10 times higher than a first order family history of the disease. If discovered, certain thermographic risk markers may warn women to get regular check-ups to closely monitor their breast health.

3.) A POSSIBLE ROLE IN BREAST CANCER PREVENTION

Since an important risk factor for the development of breast cancer may be an imbalance of hormones in the breast, normalizing the balance of the hormones may be a significant step in prevention. Certain thermographic signs may suggest the effects of hormones in the breasts. This may be the first marker that alerts your doctor to this possibility. Your doctor will first need to run further tests to confirm this. If these tests are positive, your doctor may use these tests to monitor your care.

4.) IMAGING FOR YOUNGER WOMEN

Current studies indicate that 15% of all breast cancers occur in women under 49. This is the most common cancer in women in this age group. Breast cancers in younger women are usually more aggressive and have poorer survival rates. Breast thermography offers younger women a valuable imaging tool that they can add to their regular breast health check-ups beginning with baseline imaging at age 21.

Understanding Your Infrared Images

When looking at your images, and comparing them to your report, things may become confusing. This is very understandable if you have been looking at images on the internet. The information below pertains to the entire body. Images of the breast were simply chosen as an example. We hope that the following will help in clearing things up and making your images more understandable.

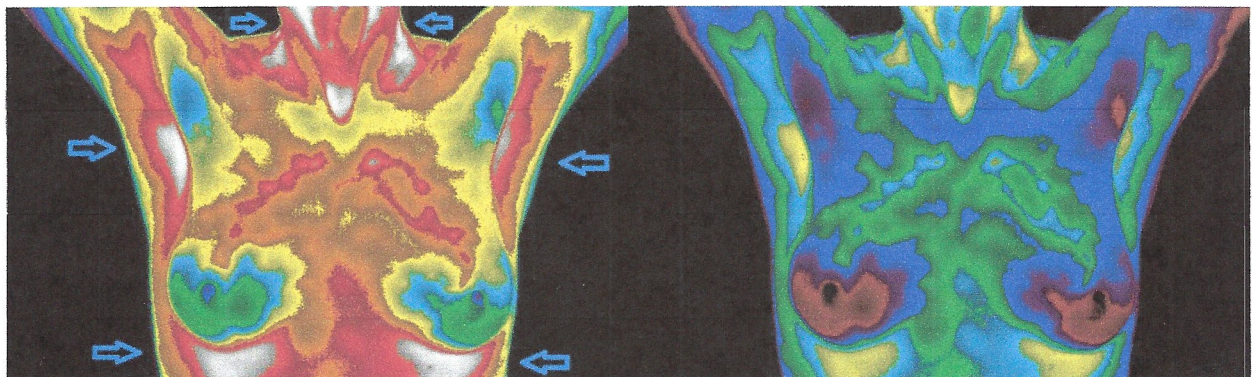
The two example images below are identical (the images are not yours). The image on the right is a copy of the image on the left. They are the same image. But I'm sure you are saying to yourself, "How can this be, the colors are not the same". This is called post-image processing. The thermologist reading your images has the ability to manipulate the images in many ways.

First, let's orient you to the "color bar" that accompanies your images.



From left to right, the black/brown colors are the coldest areas progressing to red/white as the hottest areas on the image.

Now I'm sure you are saying to yourself, "Look at all the red areas on the image to the left. These are areas of inflammation – right?". Nope, all the areas shown with arrows are hot and normal. The areas under each breast, both arm pits, and the entire neck are normally much hotter than the breasts.



"What about the image on the right. This looks more like my images. Since there are no red areas everything is normal – right?". Nope, it all depends. The thermologist reading your images does a very sophisticated computerized analysis of temperatures and blood vessel patterns, compares this to a research established normative database, and summarizes the findings with a TH (thermobiological) grading of each breast. The colors have nothing to do with the final analysis of the images. Yes, the colors allow for quick identification of hot and cold regions, but depending on certain factors the difference in temperature between the colors may be extremely small.

Depending on many factors, the temperature on the surface of your body may change significantly from day-to-day or hour-to-hour. It is the responsibility of the thermography technician to set the imaging system controls to your individual thermal presentation so that your images show the detail needed for analysis. As such, you may appear overall hotter or cooler every time your images are taken. This is perfectly normal and applies to every region of the body, not just the breasts. It is when changes occur from side-to-side, or in a specific way on one side, that a concern is noted.

I hope this information has helped you in understanding things a bit more. On a simple note, don't worry about areas that are red on your images. What is most important is the information on your report.