

Senator Crisco, Representative Megna and esteemed members of the Insurance Real Estate Committee

Medical thermography provides objective results relating to physiology and as a non invasive test of physiology (function) thermography can provide specific and useful adjunctive diagnostic results that no other testing modality can provide.

By detecting 'dysfunction' thermography can contribute findings that can be critical in a differential diagnosis relating to inflammatory pathology, musculoskeletal, vascular and neurological abnormality (none of which structural imaging results can provide).

As a breast screening test thermography provides the option of 'additional ' and 'adjunctive' findings to other breast testing results as well as providing high specificity and sensitivity findings in patients that invasive imaging is contraindicated or unreliable.

Thermography can also provide findings relating to abnormalities outside the range of other breast imaging tests (sternal and axillary regions, chest and outside the borders of the breasts and throughout the lymph chains).

The cost containment advantage of including thermal imaging in selected cases would be to include decision making results that can lead to the reduction of other investigations and testing and earlier diagnosis providing for better intervention / prevention and treatment options.

Thank you for your time

Sincerely

Dr. Peter Leando.

FTR

Understanding the role of DITI* in breast screening. (*Digital Infrared Thermal Imaging)

The benefits of DITI do vary between age and risk groups.

With the pre mammogram age group (under 50) the benefits of screening to detect any findings or changes that justify additional testing or closer monitoring are simple. With any positive DITI findings in this younger age group, any mammogram and ultrasound sensitivity and specificity will be increased with the objective DITI findings targeting a dysfunction and location and providing decision making information in women that would not have otherwise been tested.

It takes years for most cancers to develop to the stage that they can be detected with mammogram or ultrasound (dense enough for location and biopsy) so DITI is ideally placed as a screening tool to identify changes over time in the 'early' development stages, before there is more advanced pathology that can be detected with other tests.

The major benefit in this group is in detecting early changes that precede malignant pathology that will become diagnosable at some stage.

Early detection is aimed at prevention and if early changes are detected then we have an opportunity to intervene and change the outcome.

The earlier an abnormality is detected the better the treatment options will be, resulting in a better outcome.

Prevention may include treatment of inflammation, fibrocystic disease, lymph congestion, estrogen dominance and more specific conditions like angiogenesis.

DITI does not provide any of the same findings or information that mammogram or ultrasound provides, it is a different type of test. DITI shows information relating to vascular activity, inflammation, lymphatic activity, hormonal dysfunction and other 'functional' abnormalities. There are no contraindications for DITI, it is totally non-invasive, no radiation of any type, no contact with the body so it can 'do no harm'.

Mammogram and ultrasound shows 'structure', tissue densities can be evaluated, lumps can be measured, calcifications located and opinions given regarding pathology before biopsy none of which DITI can provide.

There is no comparison or competition between mammogram and DITI. They are two different tests providing different results !

The results are reported by medical doctors who are certified thermologists and experienced in reading thermograms, the reading doctor takes into consideration all history and symptoms and the results of other tests.

In patients of mammographic age (generally over 50), post menopause or when the density of breast tissue has reduced sufficiently to make mammography more affective, DITI not only provides the benefit of early detection of functional change but can also increase the detection rates of other tests by contributing additional information about functional (physiological) abnormality and also the location of suspicious (positive) thermal findings that may be outside the range of other tests due to location, size of breast, implant, or other limiting factors .

DITI as a screening test in all age groups is designed to establish a baseline (the patients normal thermal fingerprint) for ongoing comparative analysis (normally annual) to detect any physiological change that justifies additional testing (which could be physician exam, mammogram, ultrasound, MRI, blood work, hormone testing or a number of other interventions). The changes that DITI can detect include, inflammatory pathology (inflammatory carcinoma / inflammatory breast disease) Infection, Lymph dysfunction (lymph congestion, lymph node

pathology) Vascular changes (development of new and abnormal blood vessels known as 'angiogenesis') and also any suspicious activity outside the range or scope of other tests (outside the boarder of the breast, in the sternum or axilla) so again, there is no comparison or competition between different tests.

DITI cannot detect specific pathology like a biopsy, it cannot detect tumors or micro-calcifications. DITI cannot 'see' structure.

DITI does have the potential to create anxiety for a patient (as does mammogram) with equivocal results or results that cannot be confirmed or positively diagnosed but both tests can minimize unnecessary anxiety with better informed consent, education and realistic expectation for the test.

The best possible plan is to use every appropriate test adjunctively to get the highest detection rates without generating additional or unnecessary invasive testing. It would be unfortunate for a patient to forgo a necessary mammogram that was justified, and any decision should be made with consultation between the patient and her doctors based on individual history, symptoms and test results.

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Average Growth Rate of Breast Cancer Tumor

Cancer cells double in number on average every 90 days

90 days	2 cells
1 year	16 cells
2 years	256 cells
3 years	4,096 cells
4 years	65,536 cells
5 years	1,048,576 cells
6 years	16,777,216 cells
7 years	268,435,456 cells
8 years	4,294,967,296 cells



Still Undetectable with mammography

Doubled 32 times* and normally detected by mammogram at this stage
*(1cm size)

Source: Buchanan JB, et al. Tumor growth, doubling times, and inability of the radiologist to diagnose certain cancers. Radiol Clin N Am. 1983;21:115-26



40 Doublings (Approx 10 years) is generally considered lethal

Screening thermography has the opportunity to detect changes at any stage in the development from the first year through to when a tumor is dense enough to be seen with mammography. This early detection of change can lead to earlier diagnosis and better treatment options as well as the opportunity for patients and their healthcare practitioners to intervene at an early stage with preventative treatment.

Integrated Progression Flow Chart with DITI as part of a Breast Screening Program

