

Correspondence

Jumping into the Thermography Frypan

Dear Editors:

I wish to respond to the article by Walter J. Finnegan and Dennis F. Koson, "Jumping from the Frye Plan into the State Farm Fire: An Analysis of Spinal Thermography as Scientific Test Evidence" (*Law, Medicine & Health Care* 13[5]: 205 [October 1985]).

Drs. Finnegan and Koson knew, or should have known, the many (over 200) published references available in the English-language literature showing a full and wide range of support for thermography. They cleverly failed to mention these in their work. Their statement that there were only three different versions of the same article is blatantly false.

They laud the work of Mahoney and McCulloch. They failed to take note of the fact that the work of Mahoney and McCulloch was published in *Thermology*,¹ the journal of the American Academy of Thermology. This work was critically reviewed by six known authorities in the field, including Dr. Uematsu, the current president of the American Academy of Thermology. All six of the reviewers found Mahoney and McCulloch's work flawed. They published their critique in the same issue.²

It is of interest to note that both works are, in fact, seriously flawed. The work of Mahoney and McCulloch has been certified as flawed. The work of Drs. Finnegan and Koson, which fails to take note of all available references, appears also to be quite lacking. I suggest there may be a common thread to both works (?State Farm).

Jacob Green, M.D.
Clinical Associate, Professor of
Neurology (JHEP)
University of Florida School of
Medicine
Jacksonville, Florida

References

1. L. Mahoney, J. McCulloch, *Thermography and Back Pain*, *THERMOLOGY* 1(1): 43 (April 1985).
2. S. Uematsu *et al.*, "Thermography as a Diagnostic Aid in Sciatica": A Commentary on Experimental Methods, Data Interpretation and Conclusions, *THERMOLOGY* 1(1): 55 (April 1985).

Dear Editors:

Regardless of the merit of spinal thermography as scientific test evidence, I must strongly disagree with Drs. Finnegan and Koson when they state: "Both medicine and law do agree, however, in considering thermography a legitimate diagnostic tool in the detection of breast cancer."

Although several studies in the past have indicated the possible value of thermography in breast cancer screening, most published reports are flawed by a lack of appropriate experimental controls, specifically the use of mammography, among all patients studied. The only pertinent study in this country is that of the Breast Cancer Detection Demonstration Projects, which found a clinically unacceptable cancer detection rate. In the first screening, 37 percent of cancers were found by thermography, and 44 percent in the second screening. These levels were found clinically unacceptable when compared with the overall rate of 57 percent for physical examination and 91 percent for mammography.

In this respect, thermography is ineffective as a means of detecting clinically occult cancer, either by itself or to determine which patients need further study by xeromammography.

Similarly, several studies have indicated a possible prognostic predictive role of thermography, since breast cancer patients who have grossly abnormal thermograms appeared to have a substantially lower

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survival. However, these studies were also poorly documented and the data have not been corrected for known prognostic indicators such as tumor size and histologic type and grade. Therefore, the use of thermography for purposes of predicting cancer survival must be

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considered unproved.

Similarly, some reports have suggested that abnormal breast thermograms can predict breast cancer risk even though they may not be effective indicators of the presence or absence of cancer at the time the study is actually performed. The few studies performed are retrospective, and are also poorly controlled. There are no good scientific data to support this use of thermography.

Although thermography, which does not use ionizing radiation, has been touted as a breast-cancer-screening or risk-prediction test, it is severely suspect, especially when thermography is used alone. The use of thermography in addition to physical examination and mammography involves no apparent risk, although it likely provides little clinically meaningful information and may substantially increase the cost of medical care.

After reviewing all the pertinent scientific literature concerning thermography, the American College of Radiology adopted a formal statement of policy on September 28, 1983. A copy of this statement is available at no charge from the American College of Radiology. In summary, the statement concludes: "At present, thermography of the breast is still an experimental procedure with no established clinical indications."

While Drs. Finnegan and Koson indicate that "the scientific jury is still out" concerning the diagnostic and scientific evidentiary value of thermography in spinal problems, the jury has apparently already returned an unfavorable verdict concerning breast thermography.

I hope that this letter clarifies and corrects a popular misconception concerning the value of thermography in breast cancer detection.

**Martin B. Flamm, M.D., J.D.,
F.C.L.M.**
Metairie, Louisiana

Authors' Response

We are indebted to Dr. Flamm for his insight and update on the application of thermography in screening for breast carcinoma. As a tangential matter in our article, we alluded to such thermographic screening as a contrast to its use in spinal disorders. If our research on breast thermography and the courts' acceptance of it are out of date, we can only say *mea culpa* for the former and hope that doctors and lawyers quickly resolve the anachronism in the courtroom.

With respect to Dr. Green's contentions, we think he doth protest too much. When our article was researched (autumn 1984), the available references were as sparse as stated. Unfortunately, the intervening twenty months have also failed to produce quality, controlled studies supportive of Dr. Green's posturing. In regard to his "common thread" reference, such innuendo is disappointing, but it probably arose from his strong prejudice in favor of thermography, rather than from an understanding of the legal principles involved. My brief contacts with Dr. Green have led me to believe he is an excellent academician and clinician. I would simply suggest that he reread the article in a cooler moment. We are not opposed to

thermography as a potentially useful tool (we do oppose "ripping off" society in the doctor's office or the courtroom). However, the general acceptance in the relevant community is simply not there as yet. Perhaps Dr. Green will design, execute, and publish the blinded, controlled study that is needed to establish the substrate for true scientific acceptance.

We also wish to thank Norman R. Nashem, Jr., J.D., of Yakima, Washington, for his letter regarding a recent Washington Court of Appeals decision that excluded spinal thermographic evidence.¹ I am also aware of a recent trial court decision in the state of Pennsylvania,² in Lehigh County, where I currently practice. In this case the Honorable James Gardner sustained defendant's objection to the rendering of an expert opinion in the field of spinal thermography. Judge Gardner, referring to admissibility of scientific test evidence, noted that "our Appellate Courts have required something more than a minority view, even a respectable minority view. They have required general acceptance in the scientific community." While hardly indicative of a clear trend, these two decisions may portend a swing of the pendulum in the direction suggested by our article, at least until and unless the spinal thermographers more clearly and convincingly prove their case.

Walter J. Finnegan, M.D., J.D.
Allentown, Pennsylvania

References

1. *Burkett v. Northern*, 715 P.2d 1159 (Wash.App. 1986).
2. *Szmodis v. Geiger*, No. 82-C-4312, Court of Common Pleas of Lehigh County (Oct. 22, 1985).