THERMOGRAPHY & COMPUTED TOMOGRAPHY IN EVALUATION OF LUMBAR DISC DISEASE

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Abstract: This paper presents a comparison and correlation between the work-ups of 91 patients made with both CAT scanning, an accepted method of diagnosis, and infrared thermography. These two methods were found to be in agreement 82.4% of the time. This yields a positive correlation which was interpreted as evidence in favor of thermographic diagnostic validity.

The lower back has plagued mankind since antiquity. Approximately 80% of adults complain of significant back pain during some portion of their lives. Because lower back pain is such a common problem, it is imperative that there are good methods of diagnosis available to the practicing physician. These methods should be safe, noninvasive and cost-effective. They should also be reproducible and have a high percentage of accuracy.

The physical examination has most of these advantages, but yields only 60 percent accuracy. Myelograms can yield 84 percent accuracy, but they are invasive. CAT scanning is safe and has been reported to have accuracy rates as high as 98 percent. Because it has the higher acclaimed accuracy rate, CAT scans have been referred to as the new "gold standard" in diagnosis.

Thermography is a comparatively new diagnostic method in spinal work. It is safe, noninvasive, reproducible and relatively inexpensive to perform. Its accuracy has been compared to that of myelograms. The two methods have been shown to agree in 89 percent of cases. The EMG, with an overall accuracy of 83%, correlates with thermograms in 76 percent of cases. Because the thermogram is less frequently used, however, its validity has been questioned by some. The authors of this paper decided to test the accuracy of thermographic diagnosis. The test decided upon was a comparative study between thermographic and CAT scan diagnoses regarding the same patients.

Materials and Methods

One hundred patients with suspected lumbar disc pathology were selected for the study. These patients had lumbar CAT scans and