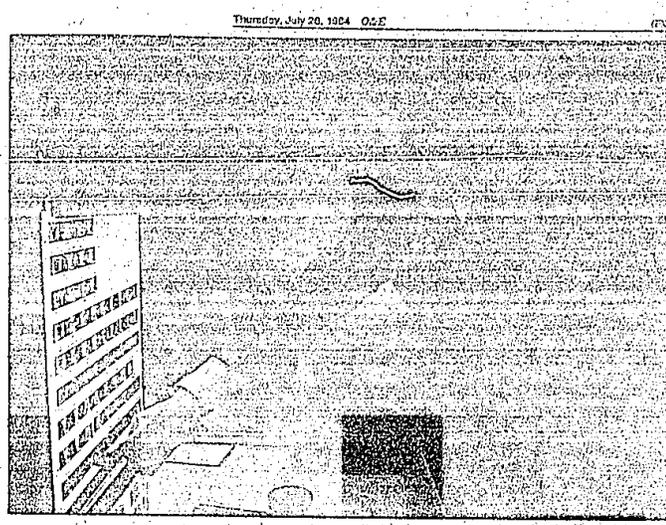


The dark portion of the thermograph shows the patient has a severe nerve root injury of the left hand and fingers caused by an injury to the neck.

It resulted in numbness in the left arm. The injury was undetected by either an X-ray or EMG study.



Dennis Morse checks a view box showing typical lumbar thermographs. One thermogram is made up of a series of 35 mm color slides.

They're putting the heat on pain

By Richard Lech staff writer

UNTIL RECENTLY, pain was a very private affair. Only the person experiencing pain could measure it — or even know if it was really there at all.

Concept is as old as medicine itself

By Richard Lech staff writer

The technology of thermography is relatively new, but the concept of using temperature to diagnose bodily ills is as old as medicine itself, Dennis Morse said. Twenty-five hundred years ago Hippocrates used the concept as the basis for putting mud on his patients. The places where the mud dried quickest indicated greater heat and therefore disease, Hippocrates believed. "Doctors have been relying on temperature for thousands of years," Morse said. "All they're doing is taking the temperature of the surface. With a thermogram, we're getting more than just the surface temperature, but we're not invading anything."

But a relatively new medical technique, thermography, has changed that, said Dennis Morse of West Bloomfield, director and owner of American Thermographic Services (ATS) in Sterling Heights. Thermography has given doctors a way of monitoring that elusive thing called pain, he said.

"What a thermogram is is a justification — if it's abnormal — for someone's subjective complaint of pain," Morse said.

A THERMOGRAPH is, in effect, a heat picture of the body, taken with an infrared camera hooked up to a computer, monitor and videotape machine.

The areas of the body photographed show up in different colors, each color representing a different temperature. Areas that show up comparatively hot or cold are evidence of pain.

For the patient, the thermogram is a harmless, painless and non-invasive way of determining whether soft-tissue injury has occurred, Morse said.

Morse's firm is one of four thermographic firms in the Detroit area. He intends to open a new office in Livonia later this summer.

Since the firm was founded 1 1/2 years ago, doctors, hospitals, insurance companies and lawyers have taken advantage of the firm's services, he said.

Based on the results of thermograms, doctors have changed their treatment of a patient, insurance claims have been settled and lawsuits have been won or lost, he said. Thermograms can back up the complaints of pain sufferers or expose those whose complaints are fraudulent or psychosomatic.

AFTER BEING involved in a car accident, for instance, a woman complained of pain in her left hand, Morse said.

She visited several doctors, went through various diagnostic tests. But they found nothing to substantiate her complaint.

Almost as a last resort, she underwent a thermographic evaluation. The thermogram revealed her palm was indeed very real. Doctors performed a nerve-block operation on her hand, and she had no further complaints.

In another example cited by Morse, a man had been off work and on disability pay for three years, complaining of pain in various parts of his body. A thermographic analysis showed no evidence for his complaints.

As a result, the man went back to work.

ON A THERMOGRAM, recent injuries will show up hot; longterm injuries, cold. But neither "hot" nor "cold" is necessarily bad, Morse said.

The key — since the body is symmetrical — is comparing the affected area with its unaffected counterpart. That means comparing a left hand with a right hand, for instance, or the left part of the chest with the right.

A difference of one degree centigrade over 20 percent of the area is proof that something's awry.

"What's really important about a thermogram is not whether it's hot or cold, but what that thermal difference is from the hot side to the cold side," Morse said.

In the case of the woman patient cited above, for instance, a large green area on the left hand indicated that hand was a degree cooler than the unjured right hand, which was predominantly a "warmer" cooler, blue.

The colors are selected arbitrarily — but purposely, Morse said. Because yellow commonly denotes heat and light blue cold, the computer is programmed to show these colors for the hottest and coldest areas. The intermediate hues, from hottest to coldest, are red, pink, dark blue and green.

THE USE of thermography in medicine has become more common in the past five years, Morse said. Today there are 400 license thermographers in the United States, including ATS thermographer, Dr. Terry Podelsky of Bloomfield Hills.

Morse predicted the technique will become increasingly popular as an alternative to invasive diagnostic tests involving the use of needles or radiation.

"Thermography will be at some point in the near future a choice that's made first, rather than third, fourth or fifth down the line."

Thermograms would be more widely used if they were more widely understood, he said. The general public — and many doctors — aren't aware of what thermograms can do, he said.

He compared thermography with the EMG, a record of the contraction of a muscle as the result of electrical stimulation, which was regarded skeptically by doctors when introduced 30 years ago but is now standard procedure.

"Most doctors don't know anything about thermography to use it as a regular basis. But why bother invading the body with either needles or radiation unless you have to? The doctors need to be educated. They're human just like anybody else."

ATS SHOTS five types of thermograms: upper, mid and lower body, facial and stress testing.

When being thermographed, a patient removes clothing from the area to

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