



MERIDIAN INSTITUTE NEWS

RESEARCHING THE SPIRIT-MIND-BODY CONNECTION

Thermography Update

We have made substantial progress in our thermography program during the past several months. In particular, the purchase of an infrared camera and software (thanks to the generosity of a private donor) was a terrific boost to our studies.

For our purposes, thermography involves the measurement and analysis of variations in skin temperatures. We are investigating the concept that understanding patterns of thermal variations on the surface of the body may provide insights into the deeper physiology of the system, with regard to both illness and treatment. Here is an update of the current status of our thermography program as it pertains to three specific areas of research.

Epilepsy

The hypothesis for our epilepsy research project is based on several of the Edgar Cayce readings that discuss the presence of an abdominal "cold spot" in cases of a "true epileptic" nature (i.e., idiopathic epilepsy). To test this hypothesis, we have used our infrared camera to take thermal images of over sixty individuals who do not have epilepsy. This data set will serve as our control population for comparison with the epilepsy group. This phase of the project was relatively easy as we were able to recruit most of the participants during the annual A.R.E. Congress last summer.

Recruitment of epilepsy patients is more challenging. We are still in the early stages of this phase of the study. If you have a diagnosis of epilepsy and would like to be considered for our project, please contact us for further information. We expect to be running this program continuously for at least the next year.

Somatic Dysfunction

The infrared camera has also contributed to another thermography project that focuses on the opposite side of the body. Traditional osteopathic and chiropractic theory emphasizes the importance of the musculo-skeletal system and associated nerves, especially of the spine.

Somatic dysfunction is the technical term for abnormalities of the musculo-skeletal system and related tissues that produce pain, limited motion, and aberrant nerve re-



Researcher David McMillin adjusts the controls of the infrared camera suspended from ceiling. The overhead view is ideal for imaging of the back and abdomen of participants who lie on the massage table.

flexes. You may also have heard somatic dysfunction referred to as spinal subluxations or lesions.

Understanding the role of somatic dysfunction has been a priority for our research program for several years. Traditional osteopathy and chiropractic focus primarily on somatic dysfunction as the source of many diseases beyond back pain. Edgar Cayce also endorsed this view consistently in his psychic readings, making many referrals to osteopathic and chiropractic physicians for a wide range of disorders.

One of our studies presented at the annual meeting of the American Academy of Osteopathy documented a

relationship between health status (as measured by a the SF-36, a well-respected instrument for evaluating general health status and quality of life) and abnormalities along the spine (as measured by an infrared neurocalometer). In simple language, a person with abnormal thermal patterns along the spine is more likely to experience poor health than a person with normal thermal patterns along the spine.

The neurocalometer is a hand-held device that rolls along the spinal on wheels while two infrared sensors record thermal data along each side of the spine. The device was invented by a chiropractor and is widely used by that profession. Edgar Cayce recommended this form of assessment in a couple of his readings.

With our new infrared camera mounted in an overhead frame (see picture), we have been able to confirm the accuracy of the infrared neurocalometer and extend our understanding of how the relatively narrow bands measured by that instrument relate to the broader thermal patterns of the back (dermatomes). Using the powerful software of the infrared camera we have found a very high correlation between the two systems, which supports the reliability of the neurocalometer. We will continue to collect data using the two infrared instruments to expand the range of our data and knowledge of thermal factors in somatic dysfunction.

Treatment Implications

Understanding pathology is certainly important, but we are also interested in the use of thermography to help us understand how various treatments affect the body and whether the effectiveness of certain therapies can be improved using thermal data and analysis.

The infrared camera has helped us ferret out the unique physiological influences of some treatments including hot packs, electric vibrator, the Fulford percussion hammer, and massage.

So far we have learned that hot packs appear to transmit heat to the body by direct conduction. When a hot pack is removed from the body, the heated area tends to quickly and steadily lose the heat that has been transferred to it. Not surprising at all!

The thermal patterns produced by the electric vibrator and Fulford percussion hammer are fundamentally different – they seem to be affecting the underlying nervous system that controls the diameter of blood vessels (vasomotor) which in turn regulate blood flow volume and surface temperature. We can tell this because the temperature of the skin tends to increase for a period of time after treatment, in contrast to the steady decline of the hot pack. These two mechanical devices even demonstrated distinctly different patterns. The electric vibrator which moves in a rotary, side-to-side motion, produces heat by friction. We know this because we have measured the

effect on inanimate objects such as books. As a practical matter, Edgar Cayce recommended the use of the electric vibrator for persons who were not able to receive osteopathic manipulations.

The Fulford percussion hammer (invented by an osteopathic physician named Robert Fulford to make his work less tiring) utilizes an up and down motion that produces very little direct heat. Yet, the device produces some of the strongest delayed thermal patterns that we have measured. Since the heat is not conducted (as with the hot pack), and is not being produced by friction (as with the vibrator), we assume that we are seeing an underlying sympathetic vasomotor response. This is significant because the sympathetic nervous system not only controls blood flow to the various organs of the system (vasomotor) but also regulates visceral impulses (viscero-motor) to the deep organs of the system. The obvious question is whether the surface thermal effects that we are measuring correlate with impulses to the deep organs. This takes us back to the concept of somatic dysfunction – if aberrant nerve impulses from spinal centers can cause disease, can interventions such as the Fulford percussion hammer normalize these impulses and restore health? Many modern osteopathic physicians who use this device believe that it does indeed produce powerful therapeutic effects.

We have also used our infrared camera to measure the effects of hands-on massage therapy. This phase is still very preliminary because of the complexity of physiological effects. Naturally there is the effect of direct thermal conduction (as with the hot pack). For example, just placing a hand on the bare skin for a few seconds will usually leave a clear but decreasing thermal outline. Circular or rotary massage along the spine (as recommended by Edgar Cayce) increases the thermal effect, presumably by friction and possibly by sympathetic vasomotor response. Of course this is all dependent upon the vigor of the massage, warmth of the hands, etc. With so many possible factors, you can see why we have chosen to start with mechanical devices to understand the basic science of manual therapy. As our knowledge increases, we hope to continue with the thermal imaging of various manual therapy techniques including deep manipulation, which presumably (according to osteopathic and chiropractic theory) is similar to the Fulford percussion hammer.

LITERATURE

Hormesis

A fascinating article appearing in the journal *Science* (Oct 17, 2003, Vol 302) touts the therapeutic potential of *hormesis*. “Sipping from a Poisoned Chalice” explores the controversial concept that poisons can heal when given in

low doses.

For ages people have known that small doses of poisons can produce beneficial effects. Hormesis is the scientific theory that explains how chemicals can have opposite effects at high and low doses.

One explanation for hormesis is that small doses of some harmful substances stimulate a beneficial overreaction, causing the organism to function better under stress. Likely mechanisms for this healing effect include stimulated immune response, enzymes that repair damaged DNA, and apoptosis (which eliminates damaged cells that could become cancerous).

Hormesis flies in the face of conventional wisdom that toxicants are poison even at low levels. Homeopathic practitioners are certainly aware that low doses of many substances can have such a paradoxical effect. Many of the Cayce remedies also fit well into the hormesis paradigm. Wild ginger is a likely candidate for a hormesis effect (see our report on wild ginger in the July, 2003 issue). The radium pad (low dosage radiation) is another example of hormesis in the Cayce readings.

HEALING

Can Olive Oil Help Acid Reflux?

The Cayce readings often extolled the healing properties of olive oil. The following story illustrates an unusual application involving very small amounts taken orally for acid reflux:

“Seven years ago I had my gallbladder removed because of gallstones, and within a few months I began to have acid reflux or heartburn. TUMS relieved it, but within a couple years I was up to four of the largest size TUMS a day. Preferring to interfere with my digestive physiology as little as possible, I didn’t want to take any of the acid blocker medicines that are now available. Instead, I recalled that the Cayce readings had said that olive oil taken in very small doses would be soothing and healing to the digestive system, along its entire length. For example, reading 5422-2, given for ulcers, said to take a half teaspoonful every few hours. Another reading, 760-7, for impacted colon, explained that, “This character of oil, as seen, is food value for tissue that is deadened by inactivity through the form of conditions existent in system.” The readings were clear that small doses would be the most effective, no more than a half a teaspoonful taken every few hours.

“I began to take very small doses of extra virgin olive oil (no more than a quarter or half of a teaspoon about 4 or 5 times a day), based on the most common recommendation in the readings. Within a couple weeks I noticed that I had less need of TUMS. After a few months,

I was down to needing at most one TUMS a day, and most days no medicine at all. My overall digestion felt a lot better, too.

“My condition occurred following gallbladder surgery, so I don’t know how well this process would apply to other causes of acid reflux.”

This individual would be interested in hearing from anyone else who experiences relief from small doses of olive oil. Meridian Institute is happy to forward any email correspondence to this person. The Meridian Institute email address is listed below.

CALENDAR

September 17-19, 2004: 9th Annual Cayce Health Symposium, Virginia Beach.

MERIDIAN INSTITUTE NEEDS YOUR SUPPORT

We welcome your support and participation. Please contribute your knowledge, time and money to Meridian Institute’s important research on the Edgar Cayce health readings. Meridian Institute is a non-profit organization. Your donations are tax-deductible.

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Statement of Purpose:

The goal of Meridian Institute is to expand the meeting ground between science and spirit by conducting and sponsoring clinical and basic science research. We intend to examine concepts about the body compatible with the premise that we are spiritual beings, and to approach the healing process from this perspective.

The body of information that will be researched and used as a guide for directing our work will be the Edgar Cayce health readings. Now over fifty years old, they provide a coherent and consistent physiology of how the body functions in health and disease. These health readings have never been fully researched in a modern, scientific manner that would provide data acceptable to all healthcare professionals and agencies.

It is our intention to conduct research in a manner acceptable to the modern healthcare community.

Priorities:

1.) To conduct and support research that examines physiological, anatomical, and health concepts which help unify the scientific and spiritual world views. This will involve sponsoring clinical and basic research, and engaging in "seed research" through conferences on specific topics and clinical projects incorporating a network of cooperating researchers and clinicians.

2.) To support, sponsor and directly present programs educating health professionals, scientists, and the public regarding these spirit-mind-body connections.

3.) To serve as an information network for researchers and clinicians exploring and applying these concepts and methods.

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