

## Energy Work Stimulates Growth of Bone and Tendon Cells

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By HILARY WALDMAN

Steeped in white-coat science since she earned her Ph.D. in cell biology at Columbia University 20 years ago, Gloria Gronowicz is about the last person you'd expect to put stock in the touchy-feely discipline of energy medicine. But then the University of Connecticut researcher saw it with her own eyes, under a high-power microscope in her own laboratory, where, once, only well-accepted biological building blocks — proteins, mitochondria, DNA and the like — got respect.

Therapeutic Touch performed by trained energy healers significantly stimulated the growth of bone and tendon cells in lab dishes.

Her results, recently published in two scientific journals, provide novel evidence that there may be a powerful energy field that, when channeled through human hands, can influence the course of events at a cellular level.

"What she's showing is an association that defies explanation with what we currently know," said Margaret A. Chesney, a professor of medicine at the University of Maryland and former deputy director of the National Center for Complementary and Alternative Medicine at the National Institutes of Health. "She's Daniel Boone."

Gronowicz and others said more studies are needed to figure out how and why Therapeutic Touch seems to stimulate cell growth — and if the findings can be applied to patient care.

"Should somebody with osteoporosis or a broken leg go to their Reiki practitioner?" Gronowicz said. "We don't know."

Through history and across cultures, spiritual healers have long believed that the laying on of hands could cure disease and relieve pain. In the last 30 years or so, many forms of energy healing — sometimes called Reiki, Therapeutic Touch, or Healing Touch — have found their way into hospitals and other clinical settings.

Still, it is often derided as hocus-pocus, although some medical practitioners have come to accept it as a harmless diversion that, if nothing else, might relieve stress.

Even when early studies showed some evidence of healing in patients treated with energy therapies, it was impossible to say whether the improvement was a result of the touch. More likely, critics suggested, the nurturing therapy simply

improved the patient's frame of mind, promoting a healing response.

Gronowicz was in the doubting camp. She had spent her career studying the biology of bone cells. Her work with hormones, growth factors and tissue engineering has shed light on the very elements of bone — a slow, sometimes tedious effort she hopes might someday help doctors find treatments for crippling diseases.

But when a colleague asked her to collaborate on an experiment looking into the power of Therapeutic Touch, she was curious. As a full professor in the department of surgery, with tenure and respect, Gronowicz had the stature to dabble in an endeavor that some of her scientific colleagues might criticize as a fool's errand.

"If I was just starting out, it would be the end of my career," Gronowicz said.

She applied for a National Institutes of Health grant to fund an experiment designed to isolate the mind/body conundrum from the question of energy healing by applying Therapeutic Touch techniques to presumably inanimate bone cells cultured in an incubator.

At first, even the NIH's branch that funds research in alternative and complementary medicine turned her down. Eventually, she received \$250,000 for her study.

Then, over the course of three years, Therapeutic Touch practitioners arrived at the lab twice a week, cleared their minds and, for 10 minutes at a time, held their hands a few inches from cell-filled plastic lab dishes that were clamped in a metal stand.

"I remember going in and thinking, 'How am I going to direct compassion and healing to a petri dish?'" said Holly Major, a nurse and Therapeutic Touch practitioner at Griffin Hospital in Derby, who worked on the UConn study.

The laboratory environment was foreign to Therapeutic Touch practitioner Libbe W. Clarke, who usually practices in her Rocky Hill living room, where clients rest on a massage table surrounded by Native American artifacts in the dim glow of lightly scented candles.

"I said, 'I've got no body that's at least 5 feet long, I've got this little dish,'" Clarke said. "But my mind said to me [that] this is a living thing. It was almost like I was working on a patient. It felt the same."

To put Therapeutic Touch to the test, cell cultures were divided into three groups.

One dish of cells was treated by a trained healer. A second set of cells was

treated by untrained students who were instructed to hold their hands over a petri dish for 10 minutes twice a week. A third dish of cells stood ignored in its metal stand.

After the treatment, the dishes were returned to an incubator. Scientists who later examined the cells under the microscope didn't know which group each dish had been in.

To Gronowicz's astonishment, the cells treated by trained Therapeutic Touch practitioners grew faster and stronger than those that received the sham treatment, or none at all.

"Therapeutic Touch stimulated growth in bone, tendon and skin cells at statistically significant rates," Gronowicz said.

She tested the cells using several different biological markers for growth, and each test confirmed her finding. In one test, Gronowicz found that cells treated with Therapeutic Touch grew at double the rate of untreated cells.

In addition to seeing increased cell division under the microscope, the bone cell cultures treated with Therapeutic Touch also absorbed more calcium, the essential mineral for growing strong bones. Her findings were published in the *Journal of Orthopaedic Research* and *The Journal of Alternative and Complementary Medicine*.

Gronowicz also looked at bone cancer cells. Cancer occurs when cells grow out of control, so a treatment that stimulates growth could be detrimental to people with cancer. But unlike healthy cells, bone cancer cells did not appear to be stimulated by the touch therapy — an interesting, though not fully explained, finding, Gronowicz said.

Beyond growing bones, the findings may begin to explain why people with strong social support systems appear to be healthier and recover from disease better than those who are isolated. Maybe it's not all in their heads.

"In this case, the bones didn't know, that's why what she did is so intriguing," Chesney said. "To our knowledge, those cells didn't know who was a healer and who wasn't."

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