

ACUPUNCTURE HAS WON MEDICAL ACCEPTANCE

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Author(s): JUDY FOREMAN **Date:** March 22, 2005 **Page:** C15 **Section:** Health Science I lie down on the table at WellSpace Inc. in Cambridge, sighing in grateful anticipation as my longtime acupuncturist, Jen Forrest Evans, goes to work. Some days, she gently pokes needles into my chronically tight lower back. Other days, she focuses on my pesky sinuses. Still other days the best ones the goal is a general tune-up of my Qi (pronounced "chee"), the Chinese term for vital (and sometimes, not vital enough) energy. This ancient Chinese technique of sticking needles into the skin to relieve pain, nausea and many other ills never fails to make me feel better more mellow and more energized. I used to think this lovely state was mostly due to the placebo effect. But a growing body of evidence brain scans, ultrasound and other techniques now shows that **acupuncture** triggers direct, measurable effects on the body, including perhaps activation of precisely the regions of the brain that would be predicted by ancient Chinese theory. This is potentially good news for the millions of Americans now scrambling for pain relief in the wake of conflicting government recommendations on painkillers Vioxx and Celebrex.

At the University of California at Irvine, researchers have shown that when a needle is placed in a point on the side of the foot that Chinese theorists associate with vision, sure enough, the visual cortex in the brain "lights up" on functional magnetic resonance imaging scans, though the cause and effect are not totally clear. Neuroscientist Seung-Schik Yoo of Brigham and Women's Hospital **has** shown that when a needle is placed in a point called pericardium 6 on the wrist, known in Chinese medicine as a sensitive point for nausea, the part of the brain that controls the vestibular system (which affects balance and nausea) lights up on scans.

While much about **acupuncture** remains mysterious, at least to Westerners, a great deal is becoming clearer, thanks to an explosion of studies using Western scientific techniques.

"The quality and amount of research being conducted now on **acupuncture** is improving greatly," said Peter Wayne, director of research at the New England School of **Acupuncture**, which **has** received \$3.2 million in federal grants to study **acupuncture**.

Acupuncture, an extraordinarily safe technique, **has** been used so far by 8.2 million Americans, according to the National Center for Complementary and Alternative Medicine, a government agency. Some insurers also now pay for **acupuncture**.

More than 40 clinical trials have shown that **acupuncture** reduces nausea following chemotherapy or surgery, said Ted Kaptchuk, an assistant professor of medicine at Harvard **Medical** School who is also a doctor of Chinese medicine.

The data on chronic pain and headache are somewhat mixed, but **acupuncture** clearly helps with dental pain, Kaptchuk said. A recent, randomized, controlled study of 570 people with osteoarthritis of the knee showed that real **acupuncture**, as opposed to a fake form used as a control, reduced pain and increased function by about 30 percent.

"This is roughly the same effect size" as with ibuprofen-type drugs, said Dr. Brian Berman, the study leader and director of the Center for Integrative Medicine at the University of Maryland School of Medicine. At the moment, Berman recommends that patients use **acupuncture** with, not instead of, pain medications, though it may help reduce the amount of medication needed.

But perhaps the most intriguing scientific question is not whether **acupuncture** works but how.

In **acupuncture** theory, there are 360 major points in the skin that lie along the 12 major channels, or meridians, in the body, through which the Qi energy flows. In Western terms, the **acupuncture** points correspond to areas of decreased electrical resistance on the skin.

Since the 1970s, Western researchers have known that one of the ways **acupuncture** works is by releasing endorphins, the body's natural painkillers.

Acupuncture seems to calm precisely the part of the brain that controls the emotional response to pain, said Dr. Kathleen K. S. Hui, a neuroscientist at the Martinos Center for Biomedical Imaging at Massachusetts General Hospital, which **has** a \$5 million federal grant to study **acupuncture's** effects on the brain. Her brain-scan studies show decreased activation in deeper brain structures in the limbic system, which governs emotions and other physiological functions.

Researchers also have shown that **acupuncture** boosts levels of serotonin, which is often deficient in depression, and lowers levels of norepinephrine and dopamine, which are often elevated in stress and pain.

Precisely how signals travel from **acupuncture** points to the brain is still a matter of some debate. Most researchers, Hui among them, believe that electrical signals travel along nerve tracts that branch off from the brain stem to the limbic system.

Others, like Dr. Helene Langevin, a neurologist at the University of Vermont College of Medicine, believe signals may pass also along the 12 major **acupuncture** "meridians" that run through the body.

For years, Western scientists doubted the existence of these meridians. But, in a series of studies using ultrasound, Langevin **has** found evidence that the meridians lie along the sheets of connective tissue that surround organs. By analyzing meridians in the arm of a cadaver, Langevin said she discovered "that 80 percent of the **acupuncture** points coincided to where the major connective tissue plane was. We also did a statistical analysis this was not due to chance."

The bottom line? At long last, Western scientists are beginning to show, by their standards, just what Chinese acupuncturists have been saying for millennia: That the effects of **acupuncture** are real. And that, at least for certain problems and to some degree, **acupuncture** can help relieve pain and suffering.

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