

EXPERIENCE THE BENEFITS OF ACUPUNCTURE

THE SCIENCE OF ACUPUNCTURE

Pain Management Health Center

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MRI Shows That Acupuncture Treatments Reduce Pain

Dec. 1, 1999 (Chicago) -- Sticking an acupuncture needle into a point in the hand greatly diminishes the amount of brain activity associated with pain impulses, doctors report at the 85th Annual Meeting of the Radiological Society of North America.

In a series of experiments, researchers tell WebMD, the proper placement of the fine acupuncture needle in the area between the thumb and forefinger, called the Hegu point, allowed subjects to tolerate greater amounts of pain. And pictures of the brain before and after acupuncture treatment show dramatic decreases in brain activity -- up to 70%.

"It is important for Western medicine to recognize that these acupoints really mean something in regard to pain relief," says Huey-Jen Lee, MD, associate professor of clinical radiology and director of neuroradiology at the University of Medicine and Dentistry of New Jersey in Newark. Acupoints are certain points on the body that, when pressed or punctured, have beneficial effects for certain ailments.

Lee reported on studies in which healthy subjects, men and women between the ages of 25 and 54, received pain stimuli while they were undergoing [magnetic resonance imaging](#) (MRI). The simultaneous procedures allowed doctors to view how and where [brain](#) activity occurred without acupuncture and during acupuncture treatments.

When the experiments were repeated after insertion of the acupuncture needle at the commonly used Hegu point, pain levels as seen with the MRI were decreased. Of 12 subjects who underwent the procedure, nine experienced pain relief.

The data is pretty impressive," Elvira Lang, MD, associate professor of radiology and medicine at Harvard Medical School, Boston, tells WebMD. She says the MRI pictures clearly show a reduction in pain activation. "This shows there really is something going on here." Lee says that because the MRI definitively shows brain activity, it was likely the increased tolerance to pain was real and not just an artifact of treatment, known as a [placebo effect](#).

"The brain actually shows differences," Lee says, "and that is convincing."

Wen-Ching Liu, PhD, a co-author of the study, says, "We found activity subsided in 60-70% of the entire brain."

The use of acupuncture for pain relief is gaining acceptance in the U.S., Lee says. "So many people with pain, whether from [cancer](#), [headache](#), or a chronic, unexplained condition, rely on [medications](#), such as [morphine](#), which can become addictive. Acupuncture has no side effects, and other studies have shown the pain relief it provides can last for months." Liu said there are more than 400 commonly used acupuncture points, or acupoints, on the body, although other practitioners of acupuncture will sometime cite more than 1,000 points.

Lee noted that the FDA has removed the acupuncture needle from its list of experimental devices and now considers it as an accepted medical device.

The study, Lee says, shows that "using a new technology can help us understand how this 2,500-year-old technique works. We still need more tests to understand this. Right now, we still really don't know how this works."

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The World Health Organization report

[According to the World Health Organization report on the efficacy of acupuncture](#), scientific research studies and clinical experience have shown the mechanisms involved and how acupuncture works. The World Health Organization of the United Nations from these worldwide studies have identified over 40 medical conditions effectively treated with acupuncture:

[Musculoskeletal](#): Arthritis, Tendonitis, Bursitis, Back/Neck Pain, Frozen Shoulder, Carpal Tunnel

[Neurology](#): Headaches, Sciatica, Numbness, Muscle Spasms, Tremors, Bell's Palsy, Paralysis, Post-Stroke, Parkinson, MS, Alzheimer's, Adult ADHD, OCD

[Gynecology](#): PMS, Menopause, Morning Sickness, Endometriosis, Painful or Irregular Periods, Infertility, Fibrocystic Breast

[Emotional](#): Stress, Depression, Anxiety, Insomnia, Irritability, Mood Disorders, Stress

[Ear, Nose, Throat/Respiratory](#): Allergies, Sinusitis, Vision Problems, Asthma, Cough, Colds/Flu, Emphysema, Meniere's Disease, Sore Throats, Ear Infections, Ringing in the Ears

[Digestive Disorders](#): Constipation, Diarrhea, Crohns, Colitis, Hemorrhoids, Food Poisoning, Abdominal Pain, IBS, Acid Reflux

[Dermatology](#): Acne, Eczema, Psoriasis, Painful Scars, Facial Rejuvenation, Acupuncture Face Lift, Acne

[Urology](#): Bladder Infections, Urinary Incontinence, Prostatitis, Sexual Dysfunction Bladder Infections

[Pediatrics](#): Ear Infections, Colds, Flu, Sore throat, Cough, ADHD, Autistic Syndrome

[Miscellaneous](#): Smoking Cessation, Addiction Control, Chronic Fatigue Syndrome, Fibromyalgia, Lupus

THE NEUROBIOLOGICAL SCIENCE OF ACUPUNCTURE

Neural Acupuncture Unit: A New Concept for Interpreting Effects and Mechanisms of Acupuncture

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Abstract

When an acupuncture needle is inserted into a designated point on the body and mechanical or electrical stimulation is delivered, various neural and neuroactive components are activated. The collection of the activated neural and neuroactive components distributed in the skin, muscle, and connective tissues surrounding the inserted needle is defined as a neural acupuncture unit (NAU). The traditionally defined acupoints represent an anatomical landmark system that indicates local sites where NAUs may contain relatively dense and concentrated neural and neuroactive components, upon which acupuncture stimulation would elicit a more efficient therapeutic response. The NAU-based local mechanisms of biochemical and biophysical reactions play an important role in acupuncture-induced analgesia. Different properties of NAUs are associated with different components of needling sensation. There exist several central pathways to convey NAU-induced acupuncture signals, Electroacupuncture (EA) frequency-specific neurochemical effects are related to different peripheral and central pathways transmitting afferent signals from different frequency of NAU stimulation. More widespread and intense neuroimaging responses of brain regions to acupuncture may be a consequence of more efficient NAU stimulation modes. The introduction of the conception of NAU provides a new theoretical approach to interpreting effects and mechanisms of acupuncture in modern biomedical knowledge framework

<http://www.hindawi.com/journals/ecam/2012/429412/>

THE NEUROBIOLOGICAL SCIENCE OF ACUPUNCTURE

Neurobiological Mechanisms of Acupuncture

The **Neurobiological Mechanisms of Acupuncture** was published in the November 2013 issue of “Evidence-Based Complementary and Alternative Medicine”. It compiles 32 exciting papers into 21 studies totaling 200 pages.

Please note that three of the six authors of the **Editorial** are from the USA; Harvard Medical School’s Dept of Psychiatry, Harvard Medical School Martinos Center of Biomedical Imaging, and University of Michigan’s Dept of Anesthesiology. There are 276 participants on the editorial board.

Table of Contents

- 1. Neurobiological Mechanisms of Acupuncture**, Lijun Bai, Richard E. Harris, Jian Kong, Lixing Lao, Vitaly Napadow, and Baixiao Zhao
Volume 2013, Article ID 652457, 2 pages [Neurobiological Mechanisms of Acupuncture.1](#)
- 2. Effects of Pretreatment with a Combination of Melatonin and Electroacupuncture in a Rat Model of Transient Focal Cerebral Ischemia**, Lingguang Liu and T.F. Cheung
Volume 2013, Article ID 953162, 12 pages [Neurobiological Mechanisms of Acupuncture.2](#)
- 3. Electro-acupuncture Stimulation at CV12 Inhibits Gastric Motility via TRPV1 Receptor**, Zhi Yu, Xin Cao, Youbing Xia, Binbin Ren, Hong Feng, Yali Wang, Jingfeng Jiang, and Bin Xu
Volume 2013, Article ID 294789, 6 pages [Neurobiological Mechanisms of Acupuncture.3a](#)
- 4. Neural Encoding of Acupuncture Needling Sensations: Evidence from a fMRI Study**, Xiaoling Wang, Suk-Tak Chan, Jiliang Fang, Erika E. Nixon, Jing Liu, Kenneth K. Kwong, Bruce R. Rosen, and Kathleen K. S. Hui
Volume 2013, Article ID 483105, 15 pages [Neurobiological Mechanisms of Acupuncture.4](#)
- 5. Effect of Bee Venom Acupuncture on Oxaliplatin-Induced Cold Allodynia in Rats**, Bong-Soo Lim, Hak Jin Moon, Dong Xing Li, Munsoo Gil, Joon Ki Min, Giseog Lee, Hyunsu Bae, Sun Kwang Kim, and Byung-II Min
Volume 2013, Article ID 369324, 8 pages [Neurobiological Mechanisms of Acupuncture.5](#)
- 6. Multivariate Granger Causality Analysis of Acupuncture Effects in Mild Cognitive Impairment Patients: An fMRI Study**, Shangjie Chen, Lijun Bai, Maosheng Xu, Fang Wang, Liang Yin, Xuming Peng, Xinghua Chen, and Xuemin Shi
Volume 2013, Article ID 127271, 12 pages [Neurobiological Mechanisms of Acupuncture.6](#)
- 7. Mechanisms of Electroacupuncture-Induced Analgesia on Neuropathic Pain in Animal Model**, Woojin Kim, Sun Kwang Kim, and Byung-II Min
Volume 2013, Article ID 436913, 11 pages [Neurobiological Mechanisms of Acupuncture.7](#)
- 8. Electroacupuncture Could Regulate the NF-κB Signaling Pathway to Ameliorate the Inflammatory Injury in Focal Cerebral Ischemia/Reperfusion Model Rats**, Wen-yi Qin, Yong Luo, Ling Chen, Tao Tao, Yang Li, Yan-li Cai, and Ya-hui Li
Volume 2013, Article ID 924541, 15 pages [Neurobiological Mechanisms of Acupuncture.8](#)
- 9. Acupuncture-Evoked Response in Somatosensory and Prefrontal Cortices Predicts Immediate Pain Reduction in Carpal Tunnel Syndrome**, Yumi Maeda, Norman Kettner, Jeungchan Lee, Jieun Kim, Stephen Cina, Cristina Malatesta, Jessica Gerber, Claire McManus, Jaehyun Im, Alexandra Libby, Pia Mezzacappa, Leslie R. Morse, Kyungmo Park, Joseph Audette, and Vitaly Napadow
Volume 2013, Article ID 795906, 13 pages [Neurobiological Mechanisms of Acupuncture.9](#)
- 10. Placebo Acupuncture Devices: Considerations for Acupuncture Research**, Dan Zhu, Ying Gao, Jingling Chang, and Jian Kong

11. **Hypothalamus-Related Resting Brain Network Underlying Short-Term Acupuncture Treatment in Primary Hypertension**, Hongyan Chen, Jianping Dai, Xiaozhe Zhang, Kai Wang, Shuhua Huang, Qingtian Cao, Hong Wang, Yuhong Liang, Chuanying Shi, Mengyuan Li, Tingting Ha, Lin Ai, Shaowu Li, Jun Ma, Wenjuan Wei, Youbo You, Zhenyu Liu, Jie Tian, and Lijun Bai
Volume 2013, Article ID 808971, 9 pages [Neurobiological Mechanisms of Acupuncture.11](#)
12. **Acupuncture Effect and Central Autonomic Regulation**, Qian-Qian Li, Guang-Xia Shi, Qian Xu, Jing Wang, Cun-Zhi Liu, and Lin-Peng Wang
Volume 2013, Article ID 267959, 6 pages [Neurobiological Mechanisms of Acupuncture.12](#)
13. **fMRI Evidence of Acupoints Specificity in Two Adjacent Acupoints**, Hua Liu, Jian-Yang Xu, Lin Li, Bao-Ci Shan, Bin-Bin Nie, and Jing-quan Xue
Volume 2013, Article ID 932581, 5 pages [Neurobiological Mechanisms of Acupuncture.13](#)
14. **Visceral Nociceptive Afferent Facilitates Reaction of Subnucleus Reticularis Dorsalis to Acupoint Stimulation in Rats**, Liang Li, Lingling Yu, Peijing Rong, Hui Ben, Xia Li, Bing Zhu, and Rixin Chen
Volume 2013, Article ID 931283, 7 pages [Neurobiological Mechanisms of Acupuncture.14](#)
15. **Neurobiological Foundations of Acupuncture: The Relevance and Future Prospect Based on Neuroimaging Evidence**, Lijun Bai and Lixing Lao
Volume 2013, Article ID 812568, 9 pages [Neurobiological Mechanisms of Acupuncture.15](#)
16. **Effects of Moxa Smoke on Monoamine Neurotransmitters in SAMP8 Mice**, Huanfang Xu, Baixiao Zhao, Yingxue Cui, Min Yee Lim, Ping Liu, Li Han, Hongzhu Guo, and Lixing Lao
Volume 2013, Article ID 178067, 6 pages [Neurobiological Mechanisms of Acupuncture.16](#)
17. **Enhanced Antidepressant-Like Effects of Electroacupuncture Combined with Citalopram in a Rat Model of Depression**, Jian Yang, Yu Pei, Yan-Li Pan, Jun Jia, Chen Shi, Yan Yu, Jia-Hui Deng, Bo Li, Xiao-Li Gong, Xuan Wang, Xiao-Min Wang, and Xin Ma
Volume 2013, Article ID 107380, 12 pages [Neurobiological Mechanisms of Acupuncture.17](#)
18. **Modulation of Brain Electroencephalography Oscillations by Electroacupuncture in a Rat Model of Postincisional Pain**, Jing Wang, Jing Wang, Xuezhu Li, Duan Li, Xiao-Li Li, Ji-Sheng Han, and You Wan
Volume 2013, Article ID 160357, 11 pages [Neurobiological Mechanisms of Acupuncture.18](#)
19. **Long-Term Stimulation with Electroacupuncture at DU20 and ST36 Rescues Hippocampal Neuron through Attenuating Cerebral Blood Flow in Spontaneously Hypertensive Rats**, Gui-Hua Tian, Kai Sun, Ping Huang, Chang-Man Zhou, Hai-Jiang Yao, Ze-Jun Huo, Hui-Feng Hao, Lei Yang, Chun-Shui Pan, Ke He, Jing-Yu Fan, Zhi-Gang Li, and Jing-Yan Han
Volume 2013, Article ID 482947, 10 pages [Neurobiological Mechanisms of Acupuncture.19](#)
20. **Spinal Serotonergic and Opioid Receptors Are Involved in Electroacupuncture-Induced Antinociception at Different Frequencies on ZuSanLi (ST 36) Acupoint**, Chi-Chung Kuo, Huei-Yann Tsai, Jaung-Geng Lin, Hong-Lin Su, and Yuh-Fung Chen
Volume 2013, Article ID 291972, 10 pages [Neurobiological Mechanisms of Acupuncture.20](#)
21. **The Possible Neuronal Mechanism of Acupuncture: Morphological Evidence of the Neuronal Connection between Groin A-Shi Point and Uterus**, Chun-Yen Chen, Rey-Shyong Chern, Ming-Huei Liao, Yung-Hsien Chang, Jung-Yu C. Hsu, and Chi-Hsien Chien
Volume 2013, Article ID 429186, 13 pages [Neurobiological Mechanisms of Acupuncture.21](#)