

Acupuncture: What, Why, and For the Eye?

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Disclosure

The author has no propriety interest in any of the material discussed





What is Acupuncture?

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POCTUS

What is Acupuncture?

- Roots in China 2000 years ago
- All living beings have a circulating life force, “Qi”, that protects, nourishes, and animates
 - ❖ “Prana” (Indian)
 - ❖ “Pneuma” (Greek)
- Qi circulates through a network of invisible acupuncture channels (meridians) that cover the body



Acupuncture

Now, About My Operation in Peking

By JAMES RESTON
Special to The New York Times

PEKING, July 25—There is something a little absurd about a man publishing an obituary notice on his own appendix, but for the last 10 days this correspondent has had a chance to learn a little about the professional and

and Benzocain, which anesthetized the middle of my body.

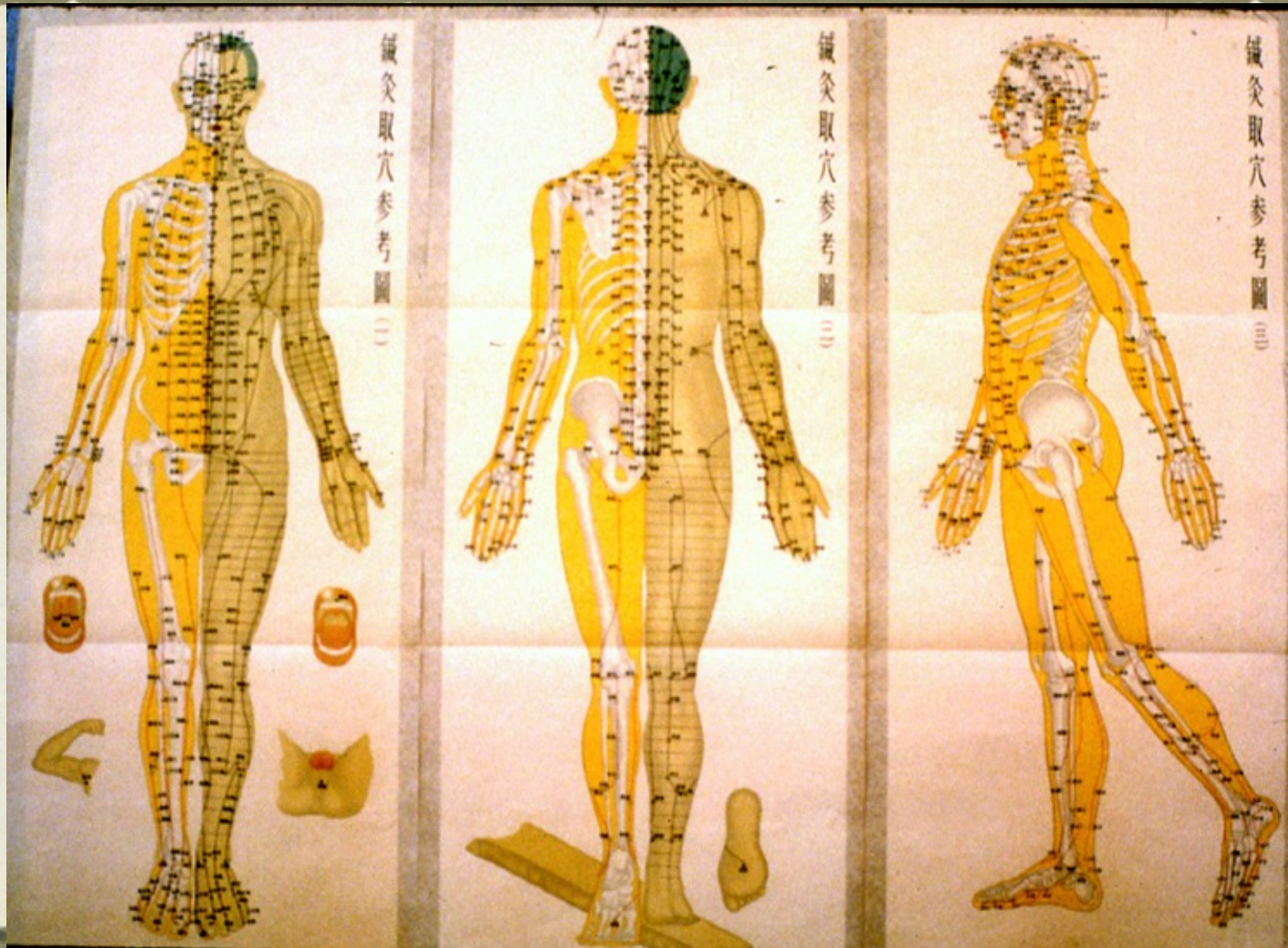
There were no complications, nausea or vomiting. I was conscious throughout, followed the instructions of Professor Wu as translated to me by Ma Yu-chen of the Chinese Foreign Ministry during the operation, and was

the operation, and Li Chang-yuan, doctor of acupuncture at the hospital, with my approval, inserted three long, thin needles into the outer part of my right elbow and below my knees and manipulated them in order to stimulate the intestine and relieve the pressure and distension of

- North American awareness after James Reston published in New York Times in 1971
 - ❖ Post-op pain from emergency appendectomy alleviated with 3 acupuncture needles
- In 1972, Nixon's personal physician accompanied him to China and witnessed several surgeries using acupuncture analgesia



The points and meridians of acupuncture



What is Acupuncture?

- “Dis”ease occurs when there is a disruption in the flow of energy, Qi
- Stimulation of specific acupuncture points can remedy disorderly flow (remove blockage) and restore the natural energy, thus treating disease
- Flow of Qi/Flowing stream analogy: blockage of stream causes stagnant water to build up and deficiency of water downstream



Acceptance of Acupuncture

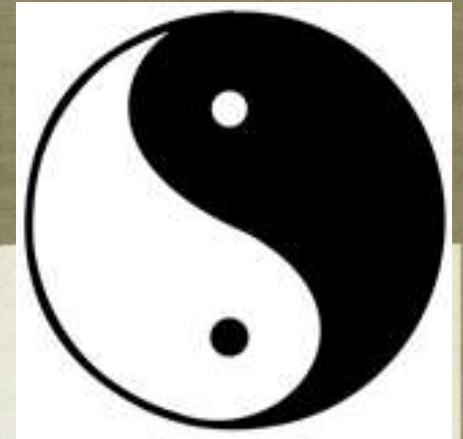
- NCCIH—established in 1991
 - National Center for Complementary and Integrative Health
 - One of 27 institutes and centers that make up the NIH
 - **Mission statement:** *The mission of NCCIH is to define, through rigorous scientific investigation, the usefulness and safety of complementary and integrative health interventions and their roles in improving health and health care.*
 - 2015 budget was \$124 million

NIH Consensus Statement on conditions treatable with Acupuncture

- Addiction
- Fibromyalgia
- Menstrual Cramps
- Post-op dental pain
- Adult post-op pain
- Nausea and vomiting from chemotherapy
- Asthma
- Carpal tunnel syndrome
- Low back pain
- Osteoarthritis
- Tennis elbow
- Headache
- Myofascial pain
- Stroke rehab

(Source: http://odp.od.nih.gov/consensus/cons/107/107_intro.htm)

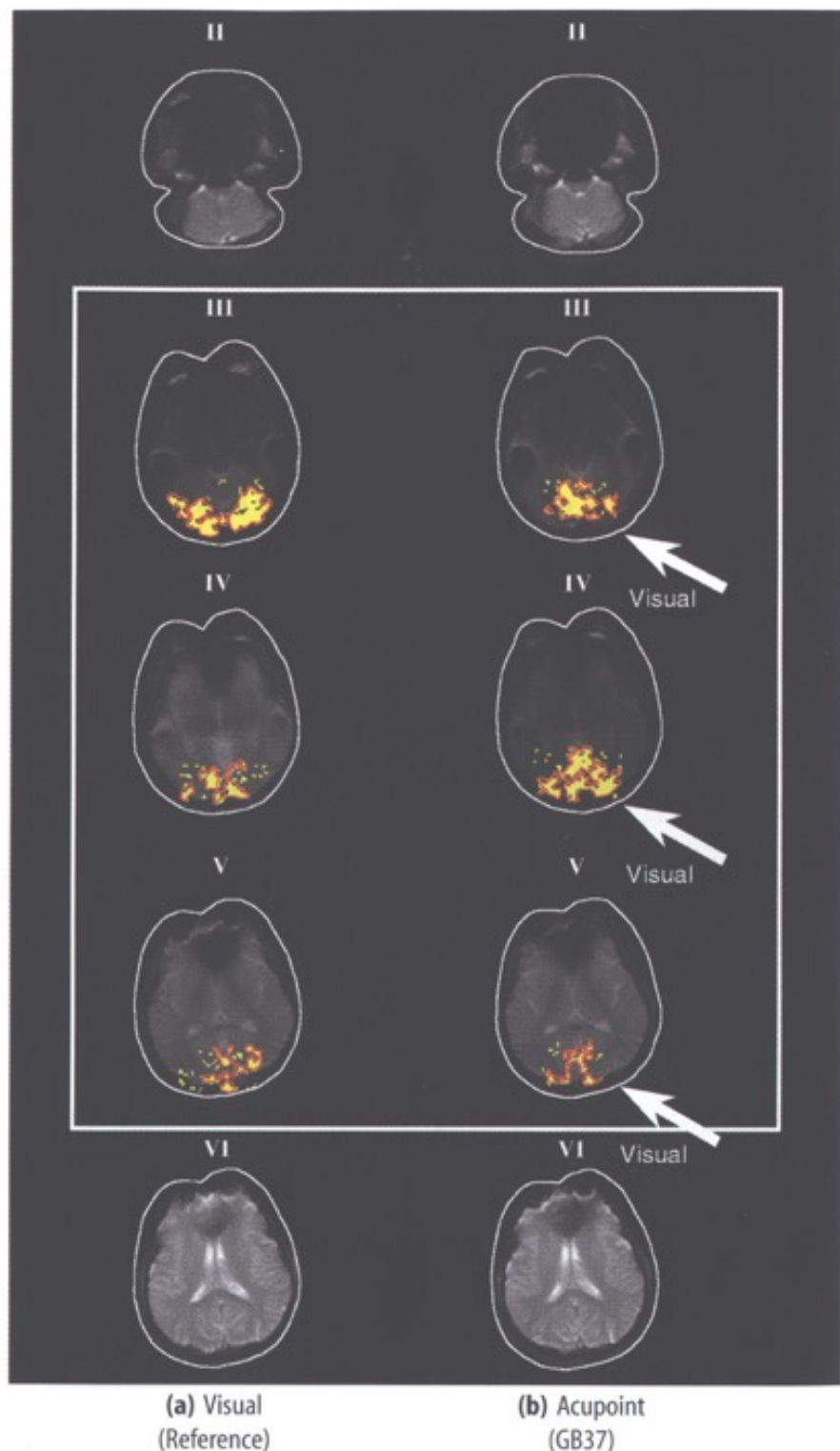
My Acupuncture Journey



- Lake Austin Spa, 2005
- Started study of acupuncture in 2005--UCLA
- Became licensed acupuncturist in 2006
- Established the Center for Integrative Eye Care at the University of Pittsburgh--2006
- Blend of East and West to optimize patient care
 - ❖ Especially important when limits of Western medicine reached
- Perform validated studies to objectively assess efficacy

Does acupuncture really work?

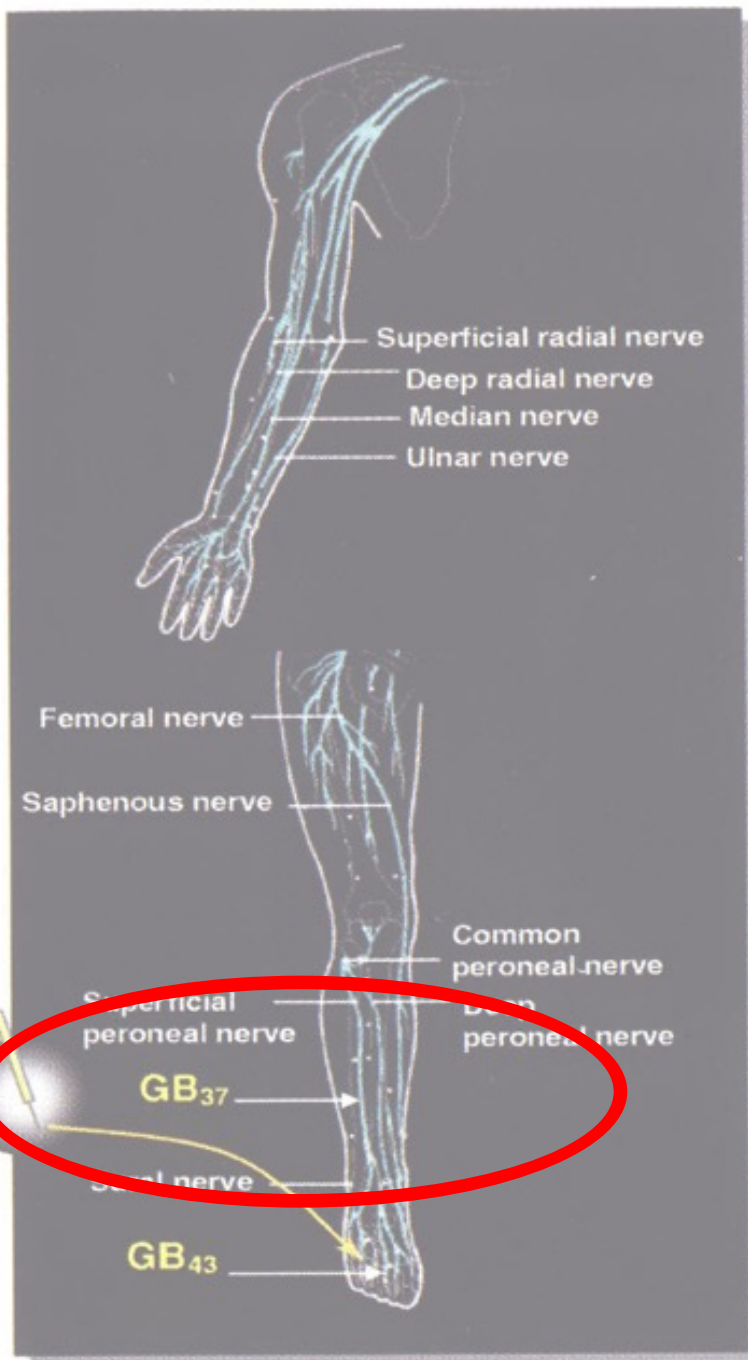




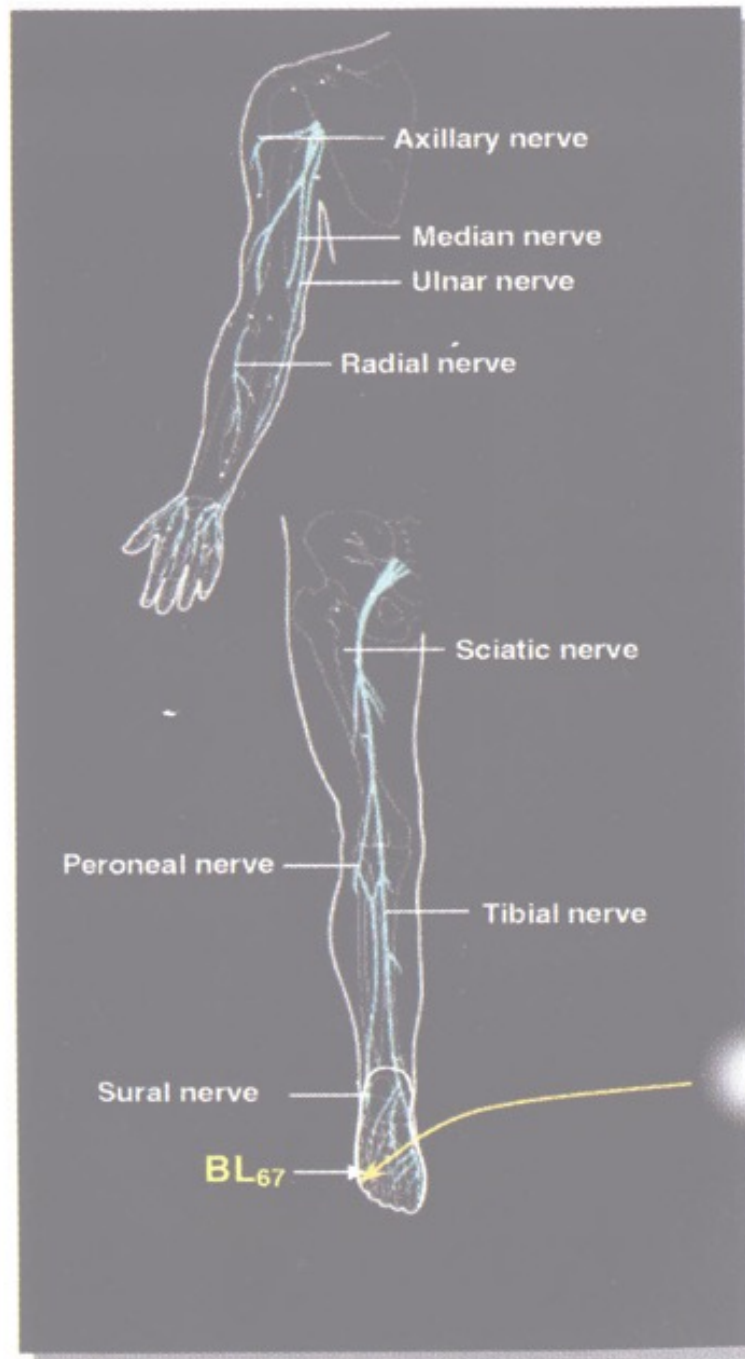
Activation results of acupuncture stimulation of vision-related acupoint GB.37 observed by fMRI optical slice imaging.

Cortical activation is shown due to (a) direct retinal stimulation by flashing light and (b) needling of the vision-related acupoint GB.37

Anterior

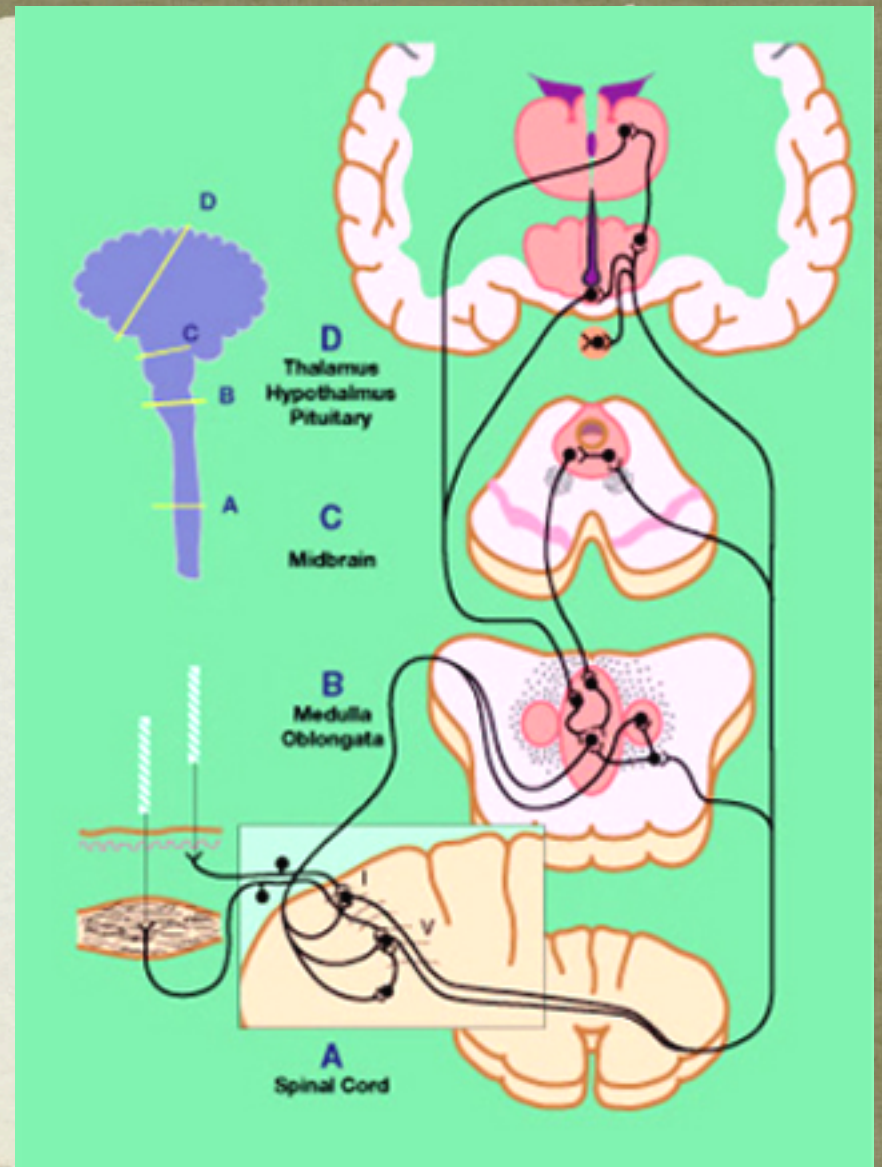


Posterior



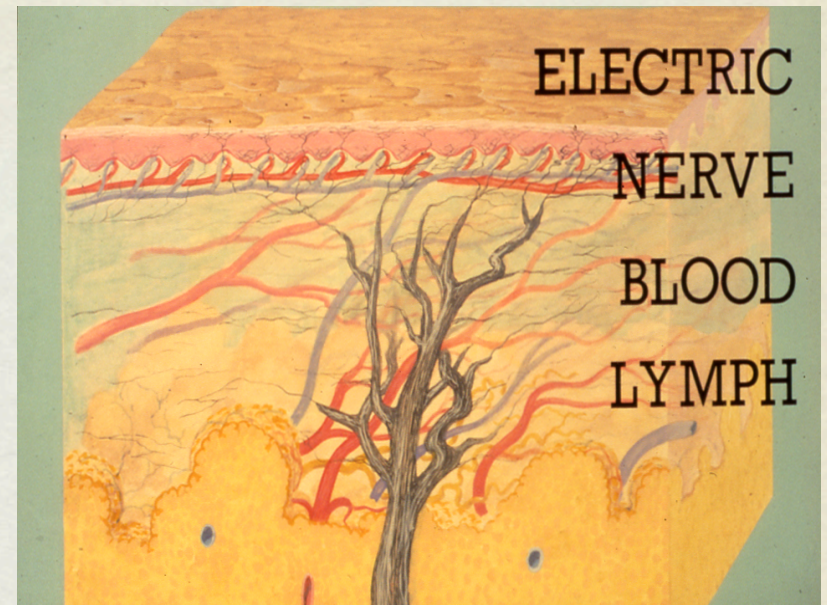
Acupuncture analgesia

- Bruce Pomeranz, MD, Ph.D, University of Toronto
- Scientifically proved one mechanism of acupuncture analgesia
- Activation of endogenous opioid peptide system: increase in blood levels of endorphins and ACTH
- Acupuncture analgesia blocked by naloxone (endorphin antagonist)



Does acupuncture really work?

- Other studies have shown that acupuncture can:
 - Alter immune function
 - Alter the secretion of neurotransmitters and neurohormones
 - Alter the regulation of blood flow

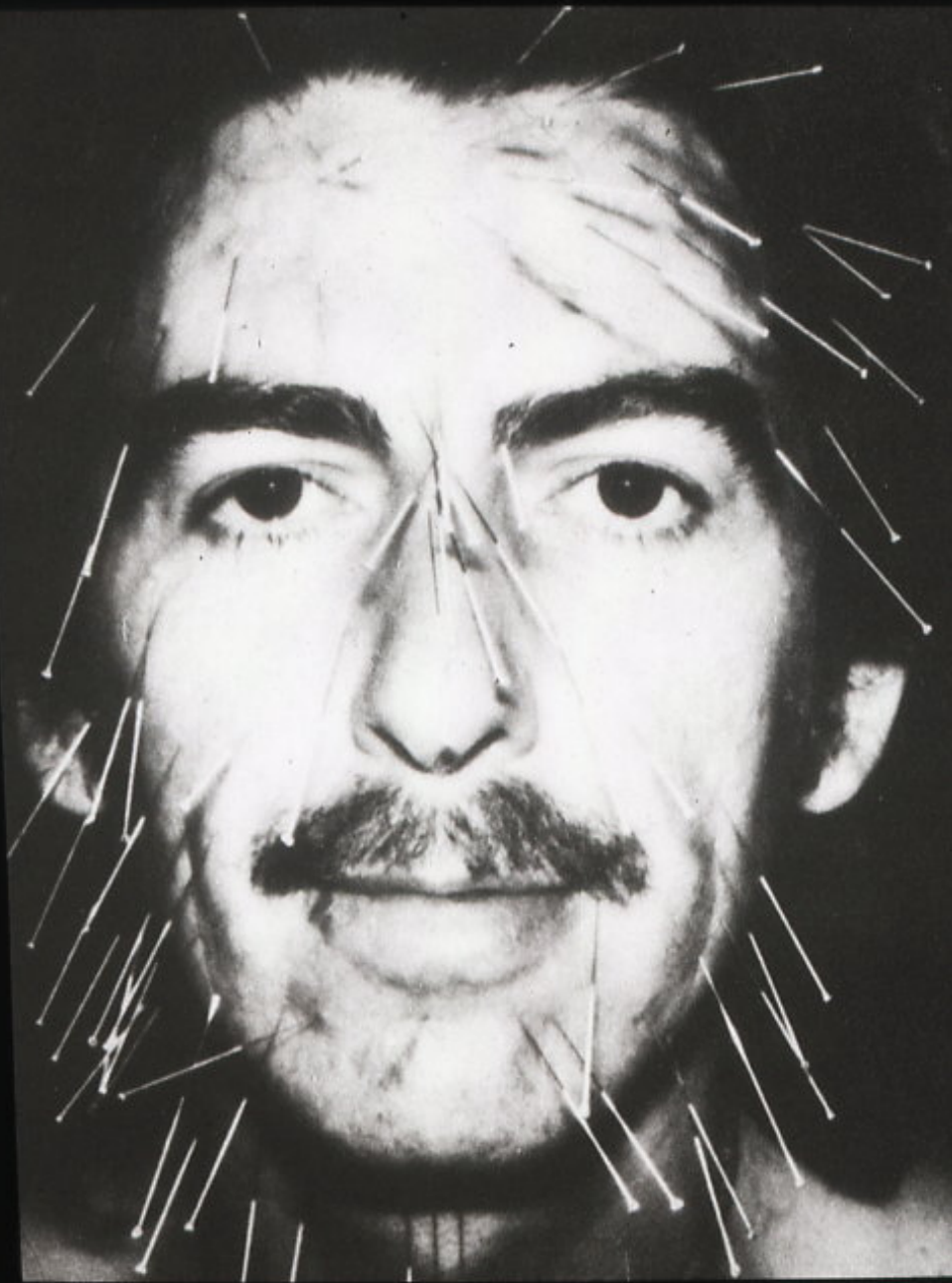


Acupuncture for dry eye

Acupuncture for dry eye

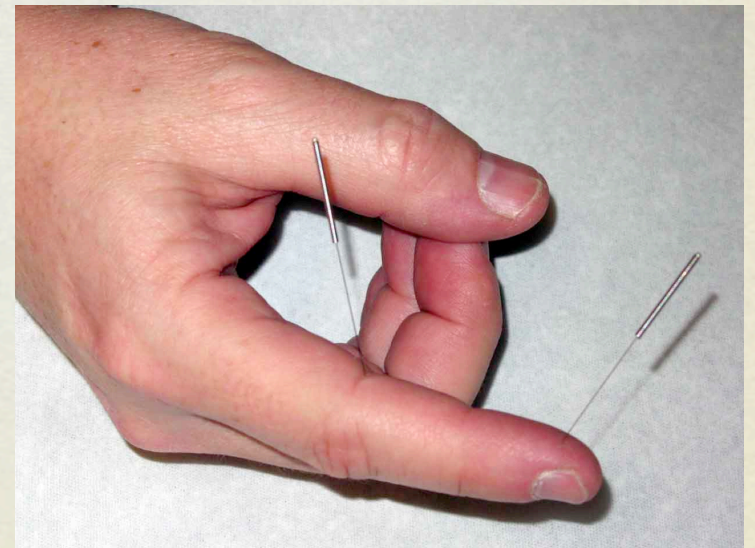
- We completed an IRB approved randomized, double-blind, placebo-controlled, prospective trial at the University of Pittsburgh to assess the efficacy of acupuncture as a treatment for dry eye
- 49 patients enrolled
- Protocol developed by Dr. Richard Niemtzw



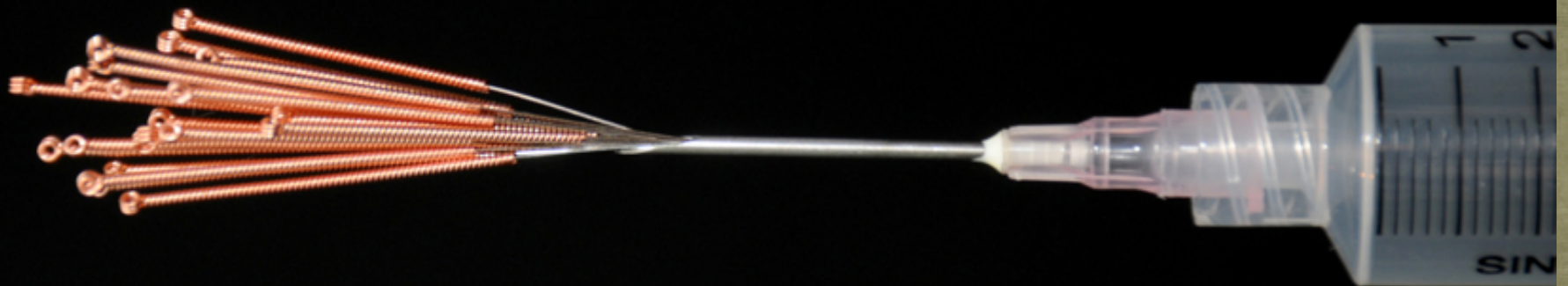


Acupuncture for dry eye

- NO NEEDLES ON THE FACE OR IN THE EYES!
- Uses needles in the ears and index fingers only (total 12 needles)
- Needles are FDA-approved, sterile, single use, very thin, flexible, do not have a lumen, “slide between cells” instead of impaling them
- Each treatment lasts 45 minutes. 2 treatments are done 1 day apart. Lasts 9-12 months



Acupuncture needles



©2008 Kathryn Grady, OMD, AP

Acupuncture for dry eye

Our study:

- Patients randomized into 2 groups: real acupuncture treatment and sham (needles placed in arm where there are no known acupuncture points)
- Patients evaluated at 1, 3, and 6 months
- TBUT, ocular surface staining, Schirmer's test, OSDI questionnaire

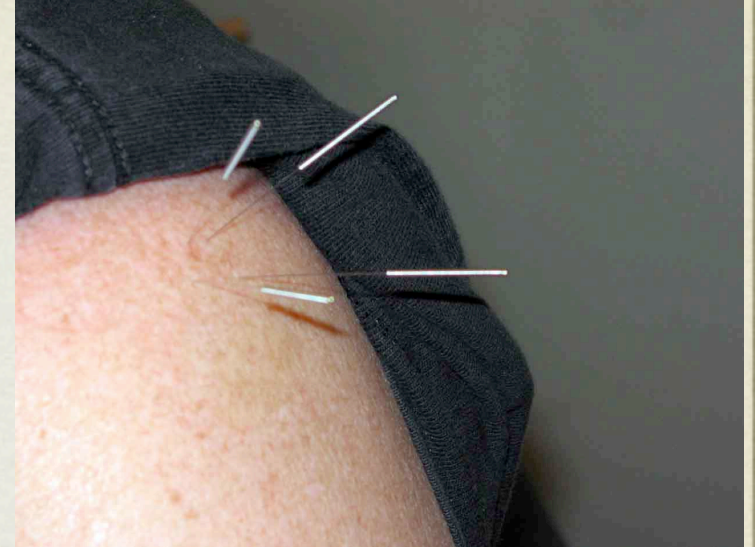
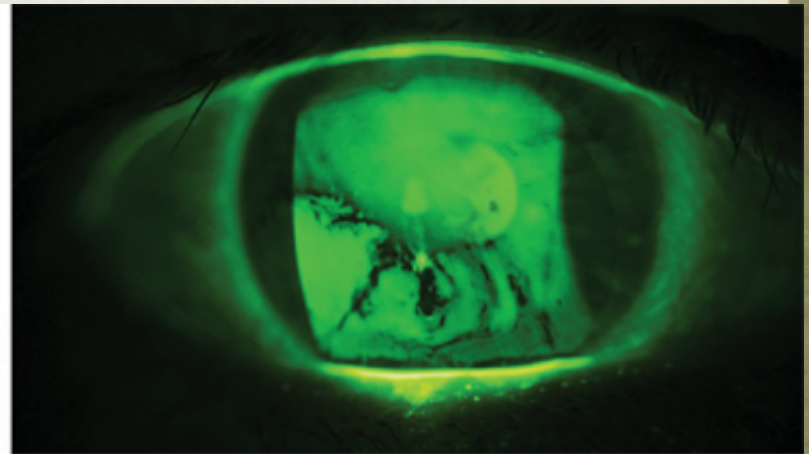


IMAGE PROVIDED BY ANDOVER EYE, NORTH ANDOVER, MA.



Acupuncture for dry eye

RESULTS:

- True acupuncture treatment significantly improved patients subjective assessment of dry eye symptoms as compared to the sham treatment
- True acupuncture treatment group required less artificial tear drop usage 6 months after treatment than sham and had significant improvement in “tiredness” and “redness” at 6 months
- No significant difference in objective measures (Schirmer’s test, TBUT, or ocular surface staining)
- Tear film osmolarity was not available when study started

Acupuncture for dry eye

Possible mechanisms of effect

- Reduction of inflammation
- Modulation of autonomic nervous system and immune system (influence lacrimal gland function)
- Reduction in pain intensity or increase of pain threshold

Acupuncture for dry eye

Literature review

- Shin et al (2010) 42 patients
 - ❖ Used sham acupuncture as control
 - ❖ Results: no signif differences in OSDI, TBUT, or Schirmer's, but did note improved OSDI in both groups

Shin, MS et al. Acupuncture for treating dry eye: a randomized placebo-controlled trial. *Acta Ophthalmologica* 2010; 88: e328-e333

Acupuncture for dry eye

Literature review: studies **reporting benefit of acupuncture in dry eye** disease (but no sham treatment group)

- Tseng KL et al. A Clinical Study of Acupuncture and SSP (Silver Spike Point) Electro-therapy for Dry Eye Syndrome. *The American Journal of Chinese Medicine* 2006; 34(2): 197-206.
- Nepp J et al. Dry eyes treatment with acupuncture, a double blind study. *Adv Exp Med Biol* 1998;438:1011-6.
- Jeon JH et al. Acupuncture reduces symptoms of dry eye syndrome: a preliminary observational study. *J Altern Complement Med* 2010;16(12):1291-94.
- Kim TH et al. Acupuncture for the treatment of dry eye: a multicenter randomized controlled trial with active comparison intervention (artificial teardrops). *PLoS One*. 2012;7(5):e36638. Epub 2012 May 17.
- Gronlund MA et al. Acupuncture treatment in patients with keratoconjunctivitis sicca: a pilot study. *Acta Ophthalmologica Scandinavica* 2004; 82: 283-290.

Acupuncture for Dry Macular Degeneration



Acupuncture for Macular Degeneration

□ Pioneer = Alston Lundgren, MD



Acupuncture Therapy for Age-Related Macular Degeneration

“The Santa Fe Eye Protocol”

**Acupuncture in Ophthalmology Symposium
UPMC Eye Center, Pittsburgh PA 7 May 2010**

Alston C. Lundgren, MD, FAAFP, FAAMA
Santa Fe NM USA

Full Text: www.ReverseAMD.com
e.mail: Alston@LundgrenMD.com

Santa Fe Protocol

- Has treated over 700 patients with variations of the same protocol (between 2001 and April 2010)
- Overall 85% of patients had an improvement in visual acuity
- Offers “money-back guarantee” if patients do not regain some vision after 4 treatments

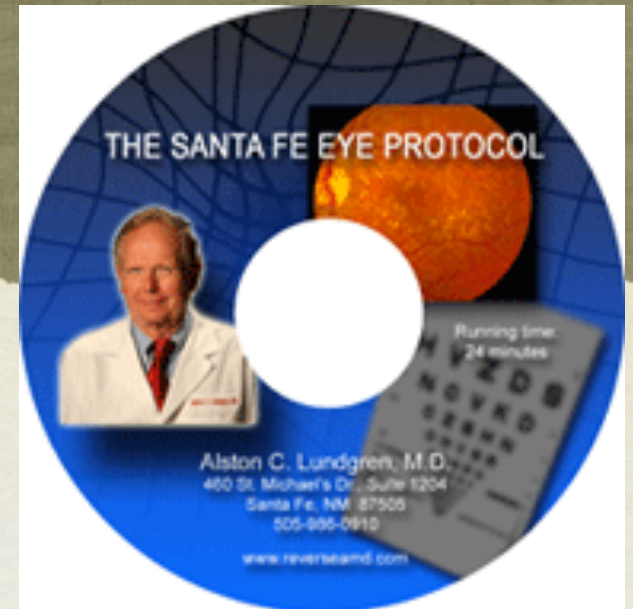
“Dr. Lundgren is so confident in the results of this protocol that all charges will be refunded if after four treatments there is not objective improvement in visual acuity. As measured on National Eye Institute ETDRS charts, one eye must test at least one line better in either near or distant vision. Most patients show much greater improvement”.

Santa Fe Protocol

METHODS:

At intake:

- Measure visual acuity using ETDRS eye charts for both near and distant vision.
- VF-14 subjective measures
- Color screen using HRR isochromatic color chart
- Pelli-Robson Contrast Sensitivity measurement



Sante Fe Protocol

INCLUSION CRITERIA

- Must have ophthalmologist exam saying no bleed:
 - Within 3 months if Wet AMD
 - Within 12 months if Dry AMD
- Must not be demented
- No seizure history



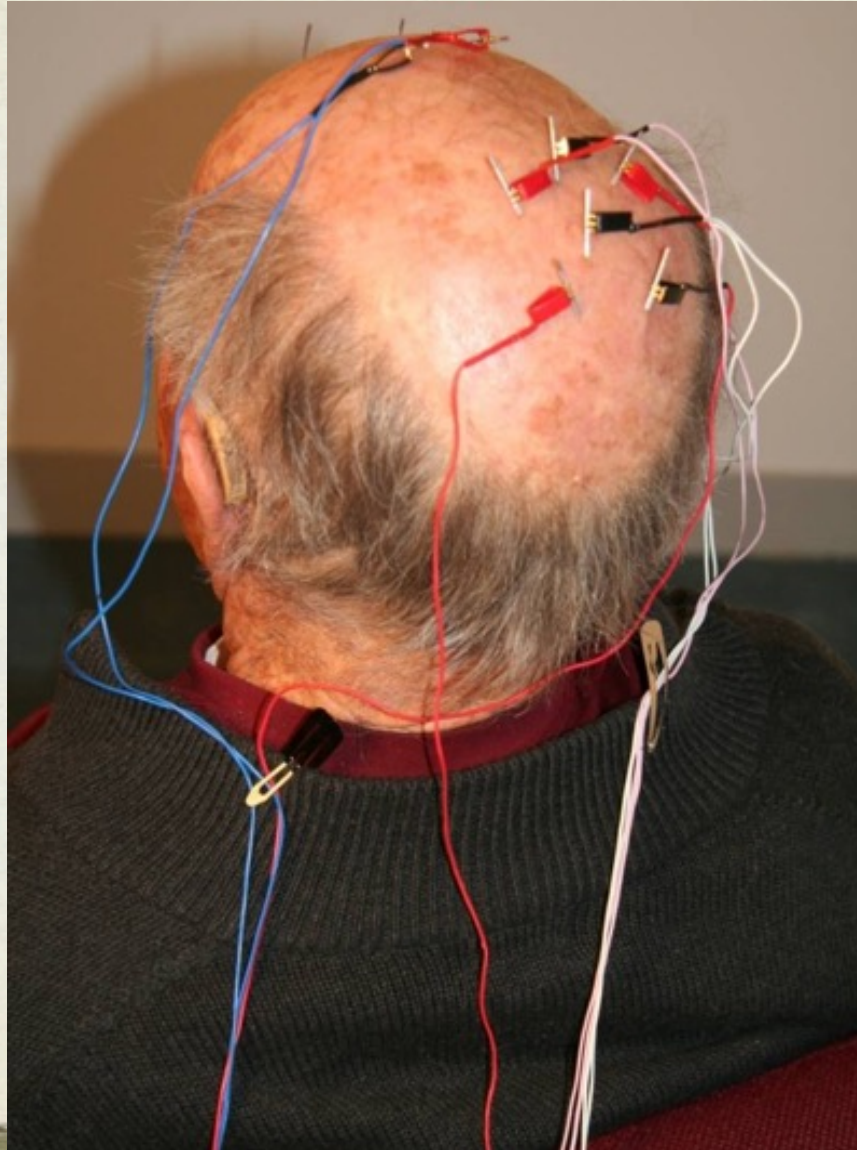
Santa Fe Protocol

- German Ear Acupuncture
- Canadian Neuroanatomic Acupuncture
- Chinese Scalp Acupuncture
- Yamamoto Scalp Acupuncture

Santa Fe Protocol: indirect stimulation of specific parts of brain using ear



Santa Fe Protocol: Stimulation over visual cortex



Santa Fe Protocol: Direct stimulation of periorbital area



Santa Fe Protocol: Results

- Dry AMD
 - DVA: improved 5.8 letters
 - NVA: improved 4.5 letters
- Wet AMD
 - DVA: improved 5.5 letters
 - NVA: improved 4.3 letters



Santa Fe Protocol: Results

- Hard to quantify gains:
 - Distortions lessen
 - Scotomas diminish or disappear
 - Less light needed to see
 - Sensation of a film over eyes decreases
 - Colors become more vibrant

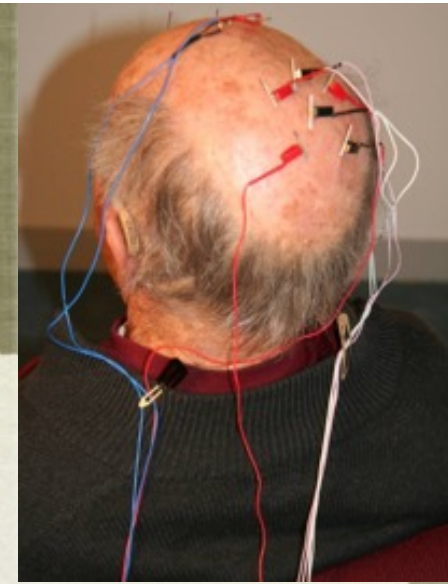
Santa Fe Protocol: Risks

- To date, only periorbital ecchymosis, resolves spontaneously
- Only 2 cases of retinal heme in patients with wet AMD near the time of treatment (unclear causality)
- No periorbital infections
- No broken or retained needles

Acupuncture for dry macular degeneration

IRB-approved pilot study:

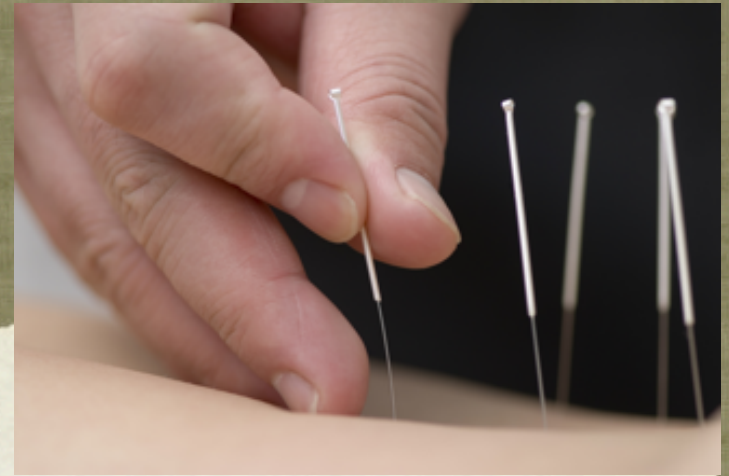
- 10 patients, each receive 10 treatments within 20 weeks
- Santa Fe Protocol:
 - ❖ Needles in scalp, ear, orbit
- Patients evaluated at 1, 3, and 6 months
- Visual acuity, contrast sensitivity, OCT, fundus photos, VF-14 questionnaire administered
- Study on-going and actively enrolling patients







Summary



- Acupuncture is a powerful Eastern medical technique that may be used to complement Western medical therapy
- Applications of acupuncture in ophthalmology are being further investigated
- We feel acupuncture can be an effective adjunct to routine clinical treatment of dry eye and potentially dry macular degeneration

**Thanks for
your
attention!**