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De Qi or Not De Qi, That is the
Question:

**Is the Chinese Emperor
Wearing No Clothes?**

Joseph F. Audette, MA, MD

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Goals of Discussion

- Expose Crisis in Acupuncture Research & Training in the West
- Detail the Roots of the Crisis
- Outline Path for Crisis Resolution

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Scientific Evidence of Crisis

- Review of the Pain literature in Acupuncture leads to the stunning conclusion:
 - ❁ Sham Acupuncture Needling is Equivalent to Verum Acupuncture Point Needling using TCM Protocols with *de qi* needling
- Ernst: The better the study design, the more likely acupuncture is shown to be no better than the “placebo group”

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Sham Needling

- Attempt in West to introduce Placebo Control into Acupuncture Research
- Types of Sham Needling
 - ⊗ Standard TCM Needling Depth (without needling to obtain the *de qi* sensation)
 - ⊗ Minimal Acupuncture (subdermal insertion)
 - ⊗ Point location off Meridian
 - ⊗ Point location on Meridian but off Formula Treatment Point
- ? Sham ≠ Placebo ?

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The Literature on Sham (or the Sham Literature?)

➤ Large Reviews

- ✿ Cochrane Collaboration

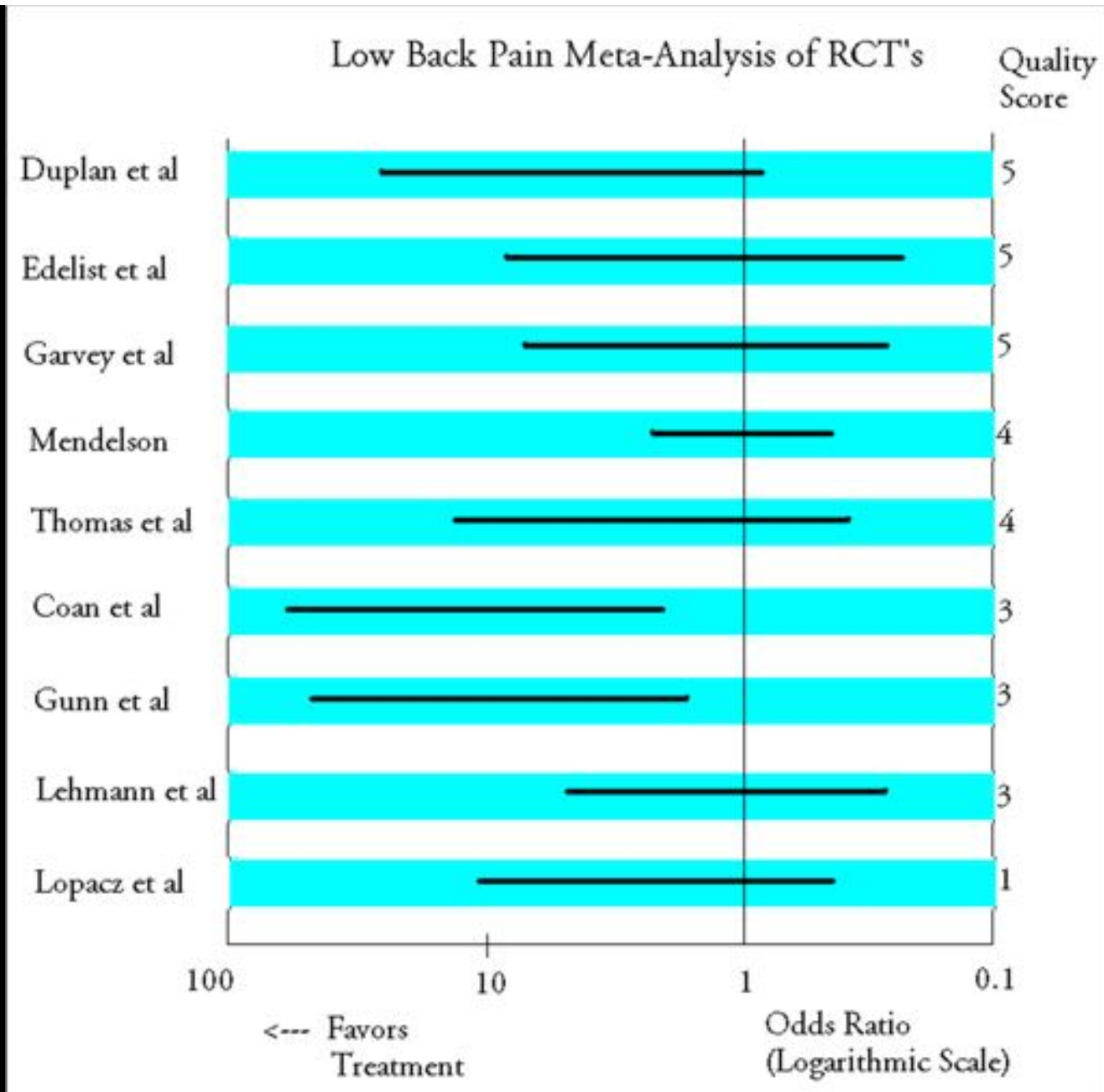
- ✿ Meta-Analyses Ernst, Ezzo

- Back Pain

- Neck Pain

- Chronic Pain

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Adapted from Ernst E, White AR. Arch Int Med. 1998;158(20):2235-41.

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Criticism of Studies in Reviews

- Acupuncture Protocols Highly Criticized by “Experts”
- Small n prevents ability to distinguish between verum and sham groups
- Length of treatment and follow-up inadequate

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Optimized Acupuncture Trial

- RCT with Sham Placebo in Chronic LBP
(Leibing e, Leonhardt U, et. al Pain 2002, 96(1-2):189-196.)
- Consecutive enrollment of 150 subjects 18-65 years of age
- All patients received 26 sessions of PT
- Acupuncture vs. Sham for 20 sessions
 - ✿ 5x per week for 2 weeks, then 1/week for 10 weeks

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SHAM TREATMENT

- Superficial needle placement 10-20 mm off verum points and off meridian (Minimal Acupuncture)
- No ear points done
- *de qi* response not obtained with Sham Needling

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Acupuncture Protocol

- Dr. Chien-Kang Li devised treatment protocol
 - ✿ Degree from Univ for Chinese Culture Taiwan and Univ. Goettingen, Germany.
 - 9 bilateral body points & 2 single points
 - Positive *de qi* response obtained

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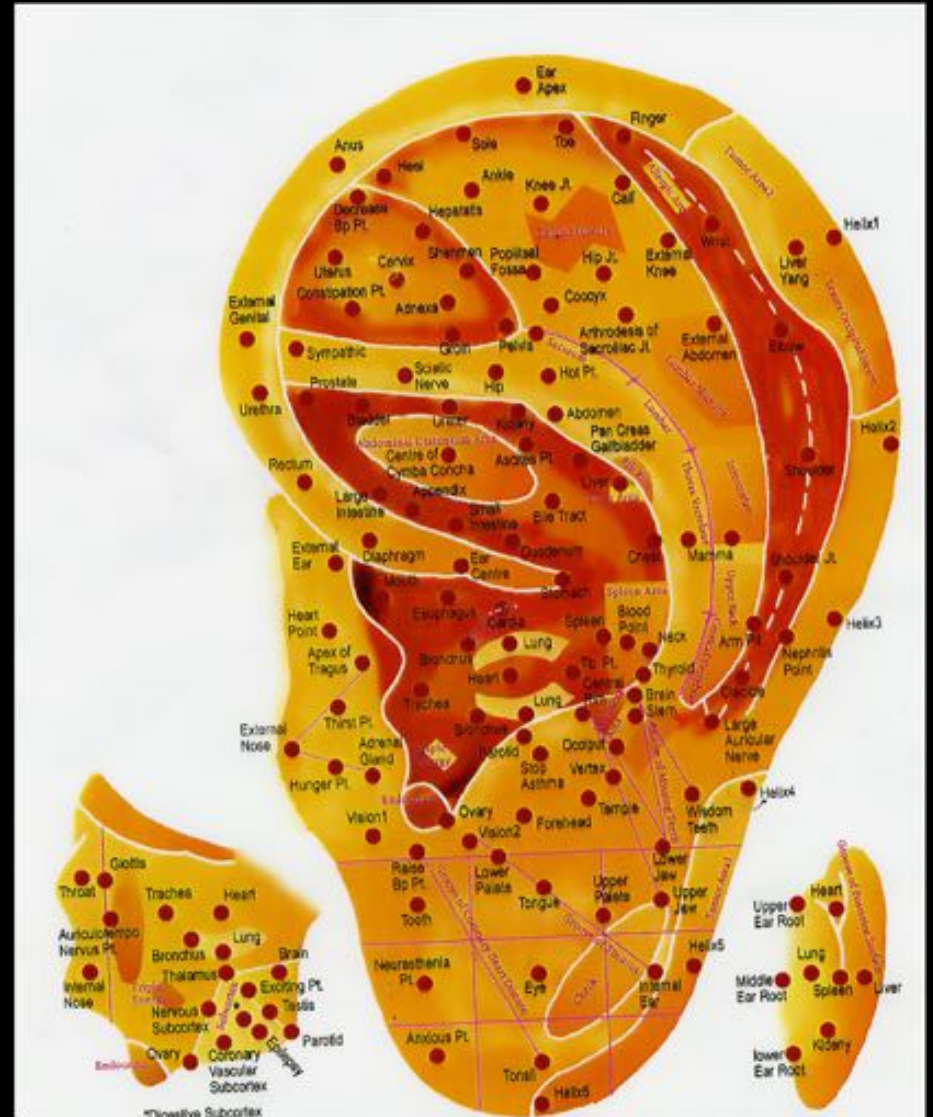
Body Points

- UB 23, 25, 31, 32, 40, 60 GB 34, SP 6
- GV 3, 4
- Hand points Yautungdien for LBP
- *De Qi* obtained on verum points

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EAR POINTS

- Os sacrum
- Parasympathicus
- Lumbosacrum
- Shenmen
- Kidney
- Nervus ischiadicus



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RESULTS

- Both Groups showed significant improvement in Pain and Functional Impairment compared to PT alone
- No significant difference in function and pain between Verum and Sham groups following treatment and at 9 month follow-up

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Other Pain Syndromes

- Neck pain (White AR, Ernst E. Rheumatology 1999;38:143-47.)
 - ✿ Majority of high quality studies show no difference between Sham and Verum
- Chronic Pain (Ezzo J, Berman B, et al. Pain 2000;86:217-225.)
 - ✿ The proportion that improved with Sham acupuncture was significantly higher than inert placebo controls (sham tens, placebo needle)
 - ✿ 22 RCT's in review used sham needling for control and 15 of the 22 (68%) showed no difference when compared to Verum needling methods.

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Possible Conclusions

- Acupuncture is no better than the non-specific effects of sham needling
- TCM formulas are no better than random point selection for Pain conditions
- Needle method is flawed
 - ❁ Is the production of a *de qi* sensation sufficient to verify adequacy of needle placement for a particular condition?

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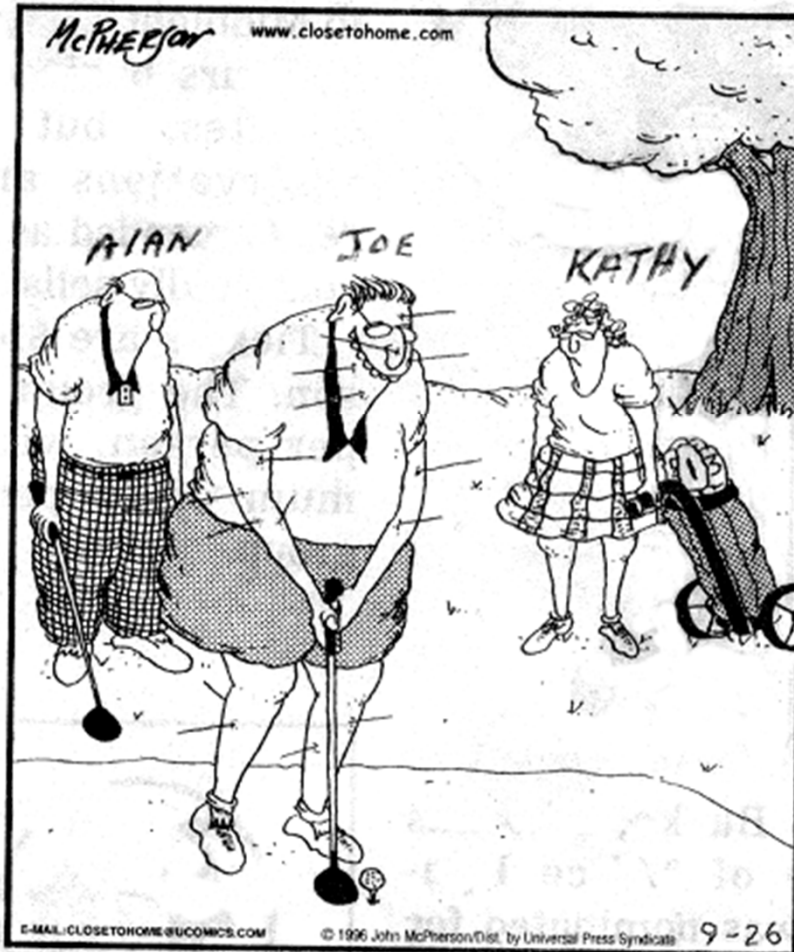
HISTORICAL CONSIDERATIONS



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Close to Home

John McPherson



With the help of acupuncture, ~~Joe~~ was able to trim 11 strokes off his game.

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Origins of Acupuncture in China

- Yellow Emperor's Canon of Medicine (Nan-Ching)
 - ⊗ Acupuncture is most cited therapy in ancient text
- By 18th Century Acupuncture had become more of an Artisan class activity
 - ⊗ Much as “surgery” was in West until improvements occurred in anesthesia and sterile technique
 - ZHENJIU (ACUPUNCTURE)
 - WAIKE (SURGERY)

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Classic 9 Needles



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Imperial Court

- Variable degree of endorsement
- Herbal Treatments preferred
- Diagnostic Methods forced to minimize touch
- In 1822 Imperial edict banned the teaching and practice of acupuncture and moxibustion in the Imperial Medical Academy

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Early 20th C Practice

- Influence of the West led many in the government to believe that traditional medical practices in China were old fashioned, not hygienic, and superstitious
- Critical of traditional practitioners lack of knowledge of precise internal anatomy
- Concern about common complications such as festering wounds and disfiguring burns

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Circa 1900 Surgical and Acupuncture Instruments



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Medical Education

- 1905 Civil service examination replaced by technical schools based on the German-Japanese model
- By 1910 Supporters of traditional Chinese medicine had developed colleges as well but did not teach acupuncture
- 1936 Government regulations regarding medical licensure were developed
 - ❁ acupuncture skills not included

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Acupuncture Modernization

- Cheng Dan'an as scholar and physician in 1930's revitalized the teaching of Acupuncture to physicians by relating the meridians and points to nerve pathways
- Illustrated text with meridians precisely drawn on naked bodies written 1932
(*Chinese Acupuncture and Moxibustion*)

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Cheng Dan'an, 1930

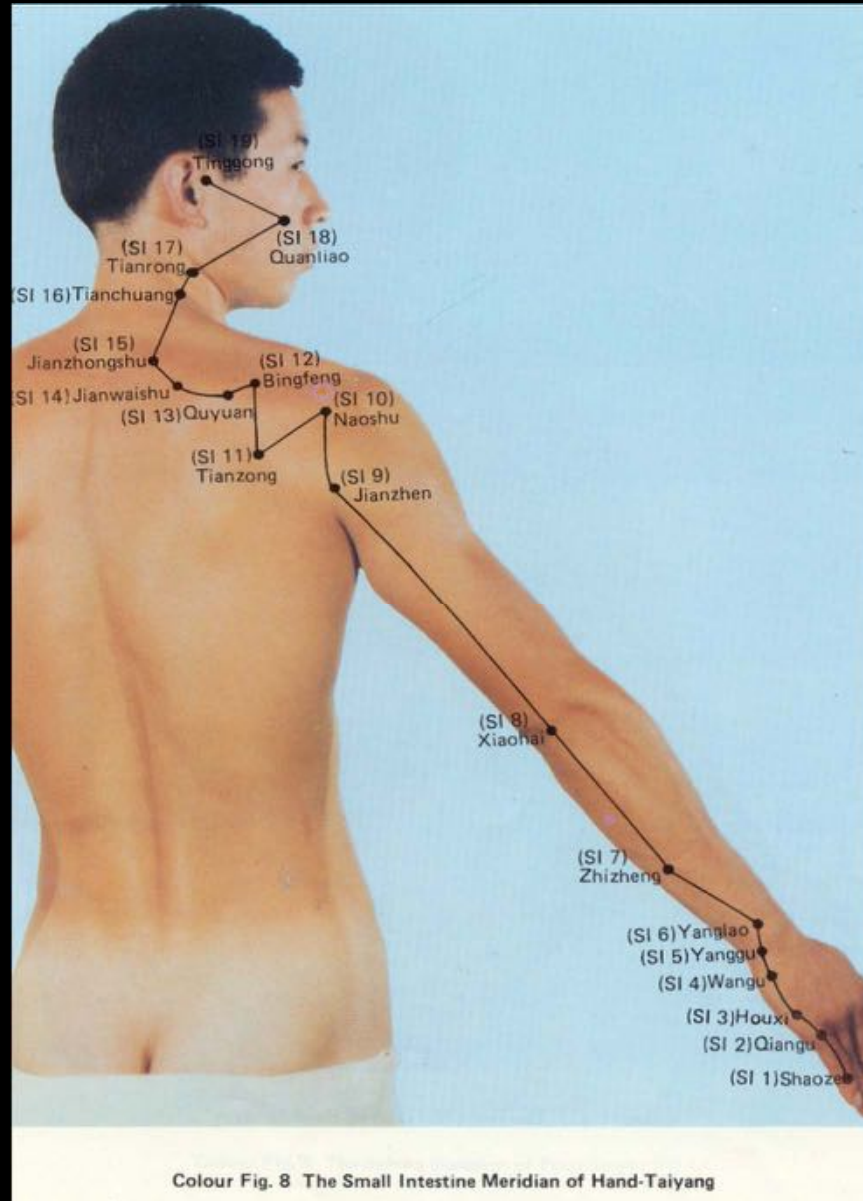
手陽明大腸經穴圖



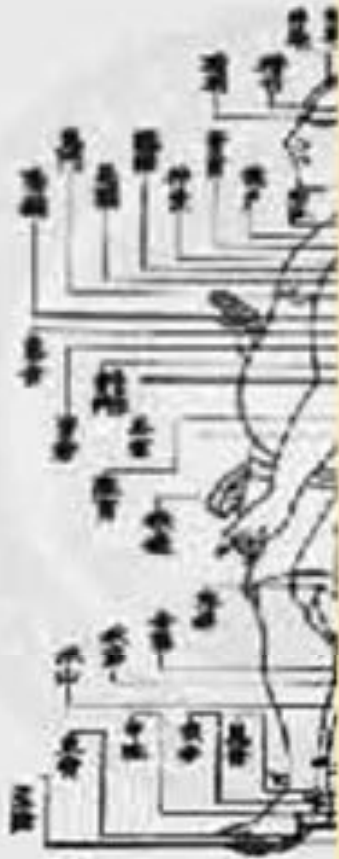
督經穴圖



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Acupuncture Formulas

- Parallels model for teaching herbal formulas
- Lends itself to Dissemination in Text form and teaching in University setting
- Moves away from Master – Apprentice Relationships
- Point location reduced to specific anatomic locations that are relatively fixed
- Time constraints lead to increased use of Electro-acupuncture

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Post-revolution Acupuncture

- Cheng appointed to Communist national committees in charge of medical policies
- Cultural Revolution of 1960's and 1970's heightened the regard concerning the indigenous genius of these traditional medical practices
 - ❁ Handbooks disseminated to the untrained on acupuncture and herbal therapeutics

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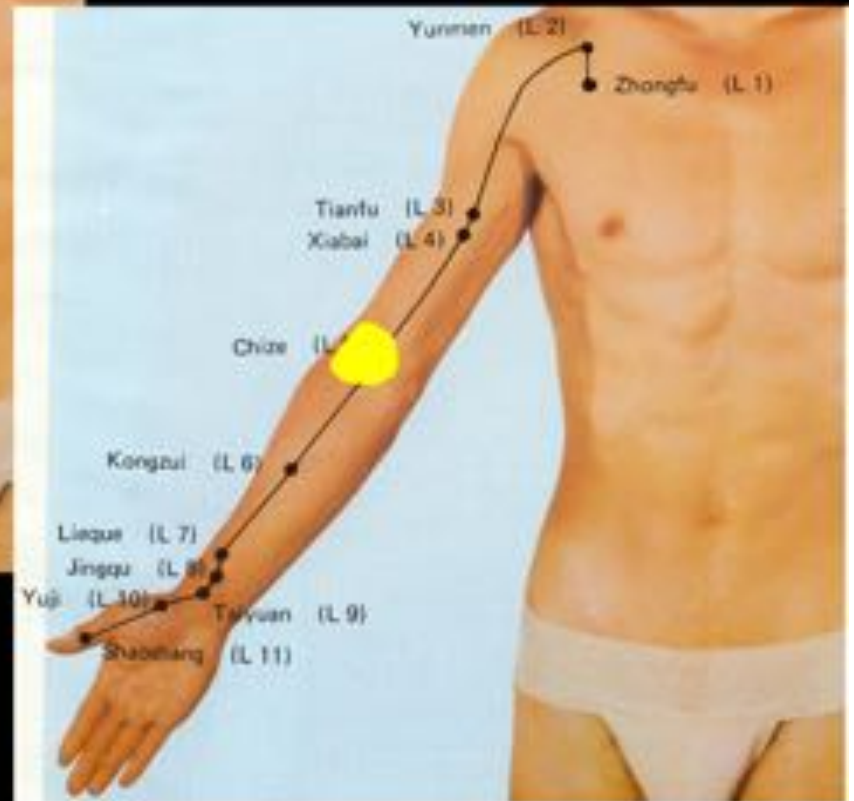
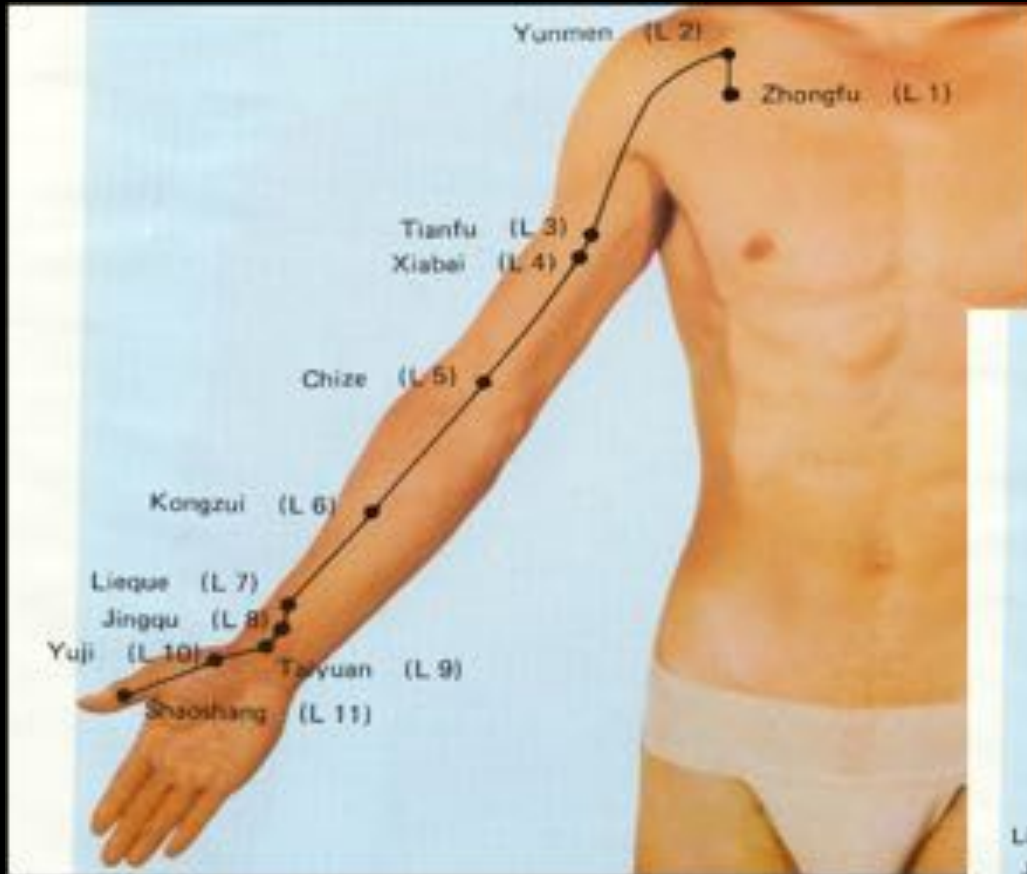
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Education in West: Non-physicians

- Western Interpretation and simplification of TCM Formulaics and Non-palpatory diagnostic methods become institutionalized in the NCCA exam (National Commission for the Certification of Acupuncturist).
- Needling techniques not emphasized given lack of mentors and fear of causing pain
- Many Chinese Physicians teaching in this country have MD from China in Ortho, Int. Med and so on and have had very brief educational background in Acupuncture (1-1.5 years)

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Point Location Fiasco



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Education in West: Physicians

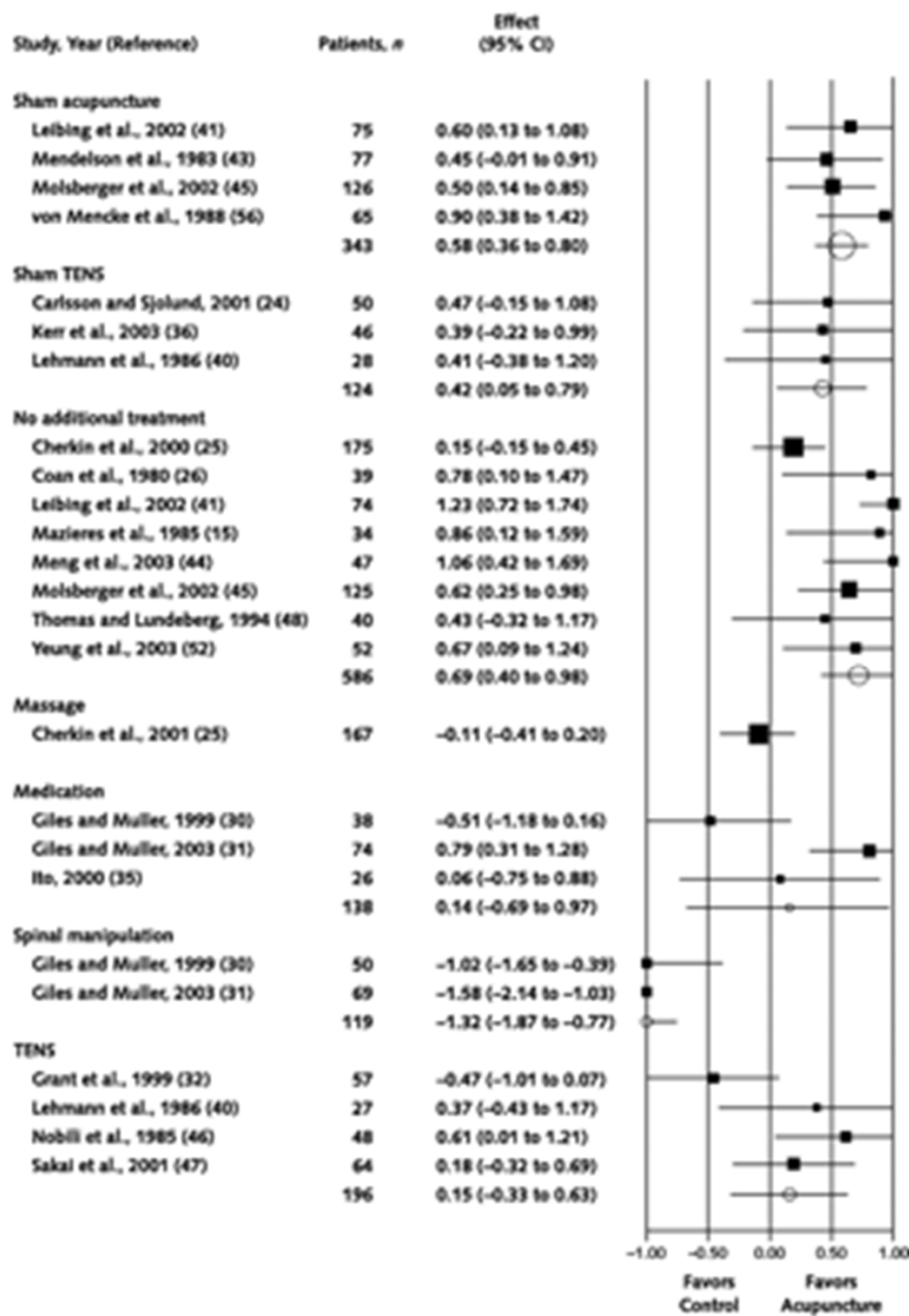
- Physician courses simplify diagnostic and point verification methods even more
- Emphasize expediency rather than efficacy
- Emphasis on endorphin theory of Acupuncture Analgesia and other reductionist physiological models which makes point verification irrelevant

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Recent Meta-analysis LBP

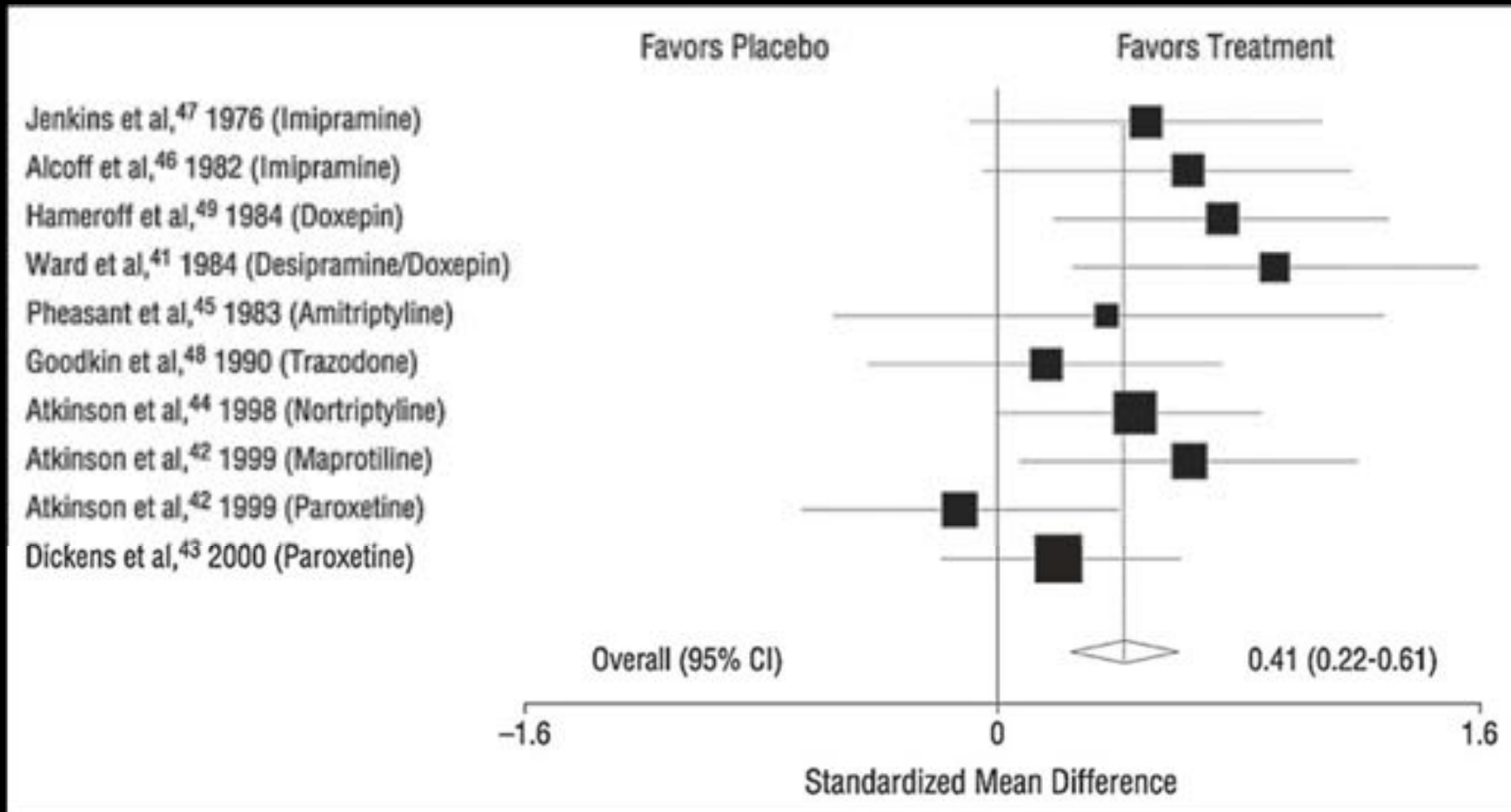
- 33 Studies on Chronic LBP included comparing acupuncture to sham, other active treatments, and no additional treatment
 - ❁ 7 trials with Sham control
 - ❁ Acupuncture is significantly more effective than sham treatment (standardized mean difference, 0.54 [95% CI, 0.35 to 0.73])

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Mean Pain Improvement with Antidepressants



Salerno SM, et al. Arch Int Med 2002;162:19-24.)

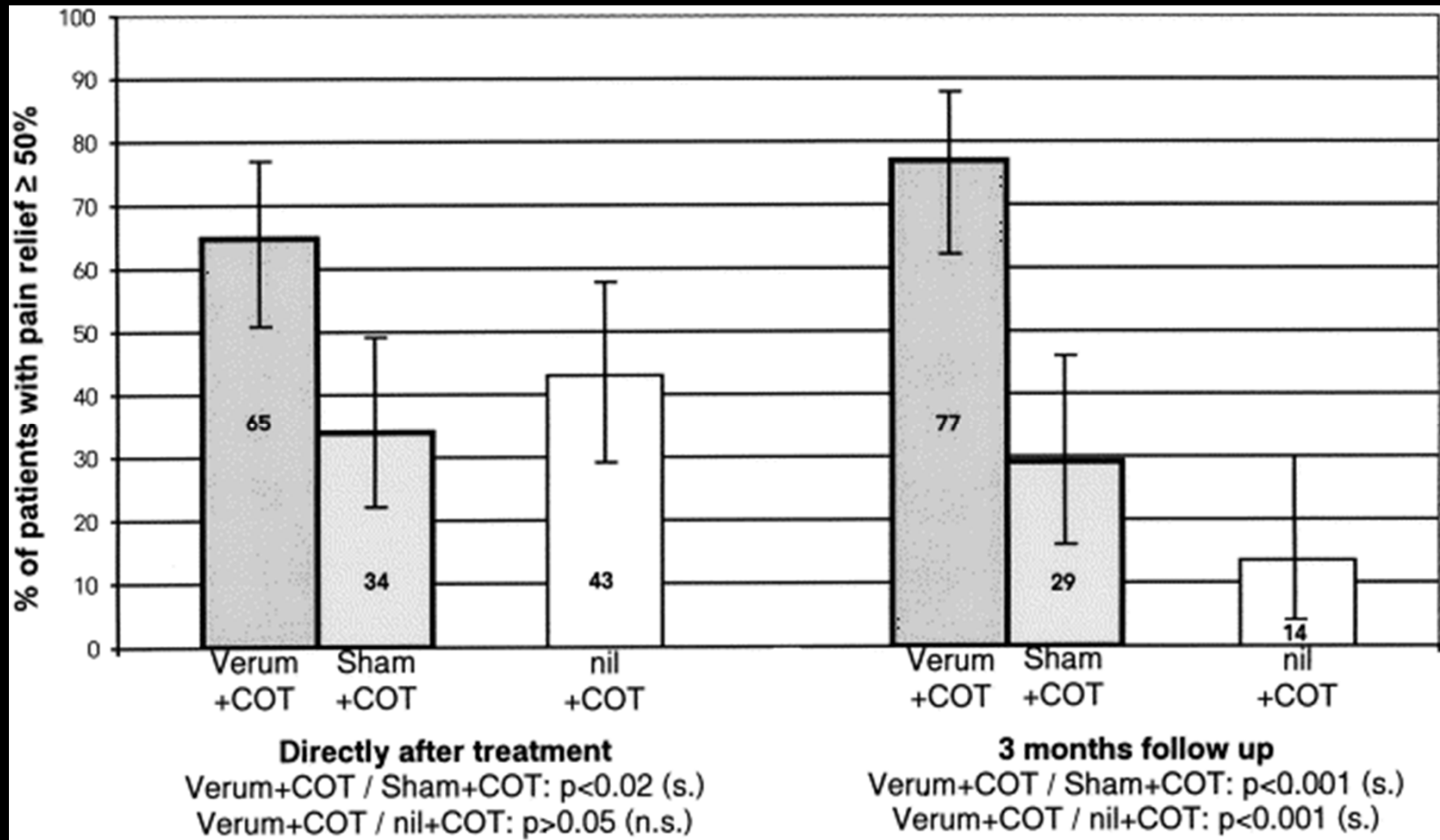
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RCT Acupuncture & Standard Orthopedic Treatment

- RCT Acupuncture + COT vs. Sham + COT in vs. COT alone in chronic low back pain
 - ❁ 186 subjects 18-65 years with pain for 6 weeks or longer, no sciatica
- COT: Conventional Orthopedic Treatment
 - ❁ PT, Back School, Diclofenac PRN, infrared, Mud packs
- Acupuncture and Sham for 12 sessions
 - ❁ 3x per week for 4 weeks
- The acupuncture therapy was carried out by an experienced medical doctor, who had studied acupuncture in China (Beijing).

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Acupuncture with Conventional Orthopedic Treatment (COT) vs. COT Alone



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Recent German Trials in Pain

- German Insurance Companies Sponsored Trials (GERAC)
 - ❁ Headache (Diener HC, et al Lancet Neurology 2006)
 - ❁ LBP (Haake M, et al. Arch Int Med 2007)
 - ❁ Knee OA (Scharf HP, et al. Ann Int Med 2006)
- All had similar findings
 - ❁ Sham Needling = Verum Formulaic Approach
 - ❁ Significant Improvement over Standard of Care both groups

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German

Acupuncture Research Trials

➤ Knee OA

- 1007 patients who had had chronic pain for at least 6 months due to osteoarthritis of the knee (American College of Rheumatology [ACR] criteria and Kellgren-Lawrence score of 2 or 3). (Scharf HP Ann Int Med 2006)

➤ LBP

- 298 Patients were randomized to treatment with acupuncture, minimal acupuncture (superficial needling at nonacupuncture points), or a waiting list control. (Brinkhaus B, et al Arch Int Med 2006)
 - 1162 patients aged 18 to 86 years (mean +/- SD age, 50 +/- 15 years) with a history of chronic low back pain for a mean of 8 years. (Haake M, et al. Arch Int MED 2007)

➤ Migraine

- 960 Patients who had two to six migraine attacks per month (Diener HC, et al Lancet Neurology 2006)

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CRISIS

危機

Danger

Opportunity

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Crisis Resolution

➤ Return to Basic Principles

- ❁ Must move towards Point Verification not Point Location based on formulas or abstract theories
- ❁ Must keep preeminent the concept that treatment must be individualized
- ❁ Education and Research must move towards incorporating styles of Acupuncture not influenced by Historic factors in China in 19th and 20th Century but instead are founded on the Chinese Classics (CCM rather than TCM)

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得气



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Nan-Ching 78:

七十八难曰：针有补泻，何谓也？然：补泻之法，非必呼吸出入针也。知为针者，信其左；不知为针者，信其右。当刺之时，必先以左手压按所针荣俞之处，弹而努之，爪而下之，其气之来，如动脉之状，顺针而刺之。得气，...

Having acupuncture needle tonification dispersion, what does it mean?

The answer is the tonification and dispersion not only using inhalation and exhalation Expert The person who knows (how to use) the needle, trust the left. Beginner who does not know, Trusts the right When one insert the needle, you must primary use the left hand and press the Point then tap the point with fingernail and Qi comes under the fingernail, you feel like some Pulsing, then you can insert the needle,

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" When one wants to determine an acu-point exactly, one should press hard with a finger at one spot After another, then if it is the right one, the patient will feel a relief of his pain (or at least a lesser degree of it) "

Huang Ti Nei Ching, Ling Shu, Chapter 51

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Needling Technique

- Must re-evaluate the importance of the *de qi* response as the sole marker for authentication of Acupuncture Point or Treatment Protocol
- Science must work to differentiate the effect of differing needling styles
- Science must work to differentiate *active* from *latent* acupuncture points

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Non-TCM styles

- Broaden Research and Education to include styles that have an overt methodology to verify accuracy of treatment
 - ⊗ Kiiko Matsumoto's and other Japanese Styles
 - Palpatory Methods
 - ⊗ Yamamoto New Scalp Acupuncture
 - ⊗ Korean Pulse Diagnosis
 - ⊗ Nogier/Bar Pulse Diagnosis
 - ⊗ Gleditsch Very Point Technique

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Education

- Education should focus on Needling Methods and Verification of effect as much as on Diagnostic Skills and Point Memorization
- Emphasis should be on educating Researchers in the clinical and historic aspects of acupuncture

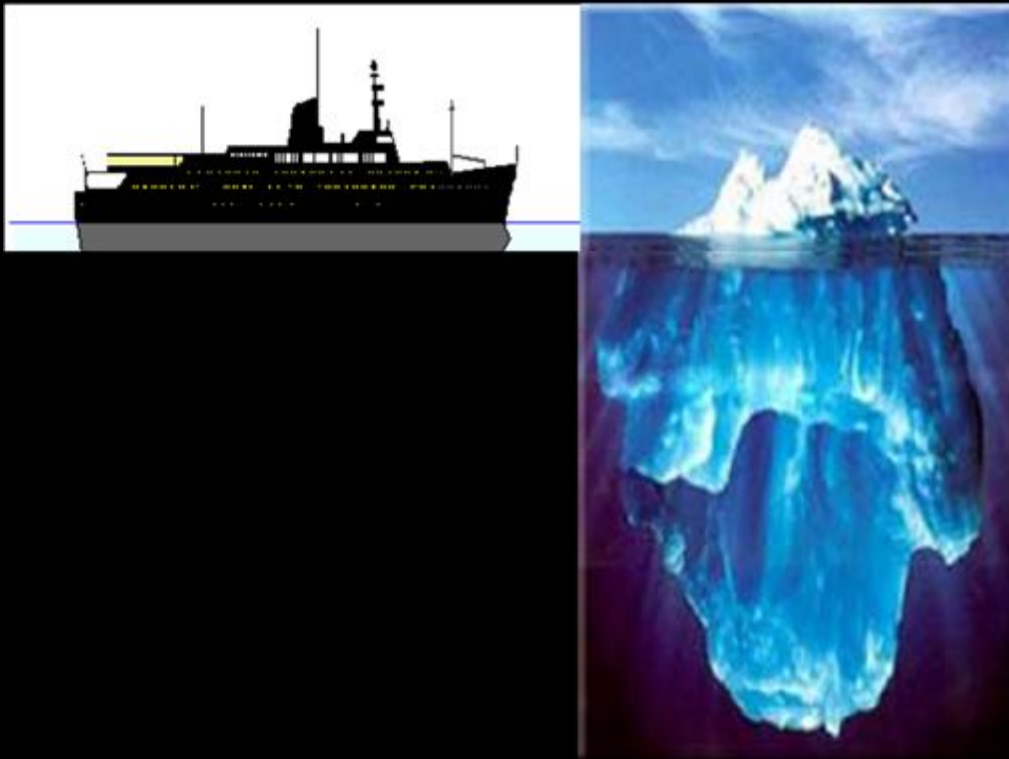
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Scientific Grounding

- Must focus research not just on “Does it Work” but on “How it works”
- What is an Acupuncture Point?
 - ❁ Why should one point work more than another?
 - ❁ Does the method of needling matter?
 - ❁ Does the angle of needling matter?
 - ❁ Are there objective physiological changes that can be measured or monitored to authenticate accurate needle placement

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What is the Biochemical Milieu of an *Active* Acupuncture Point?

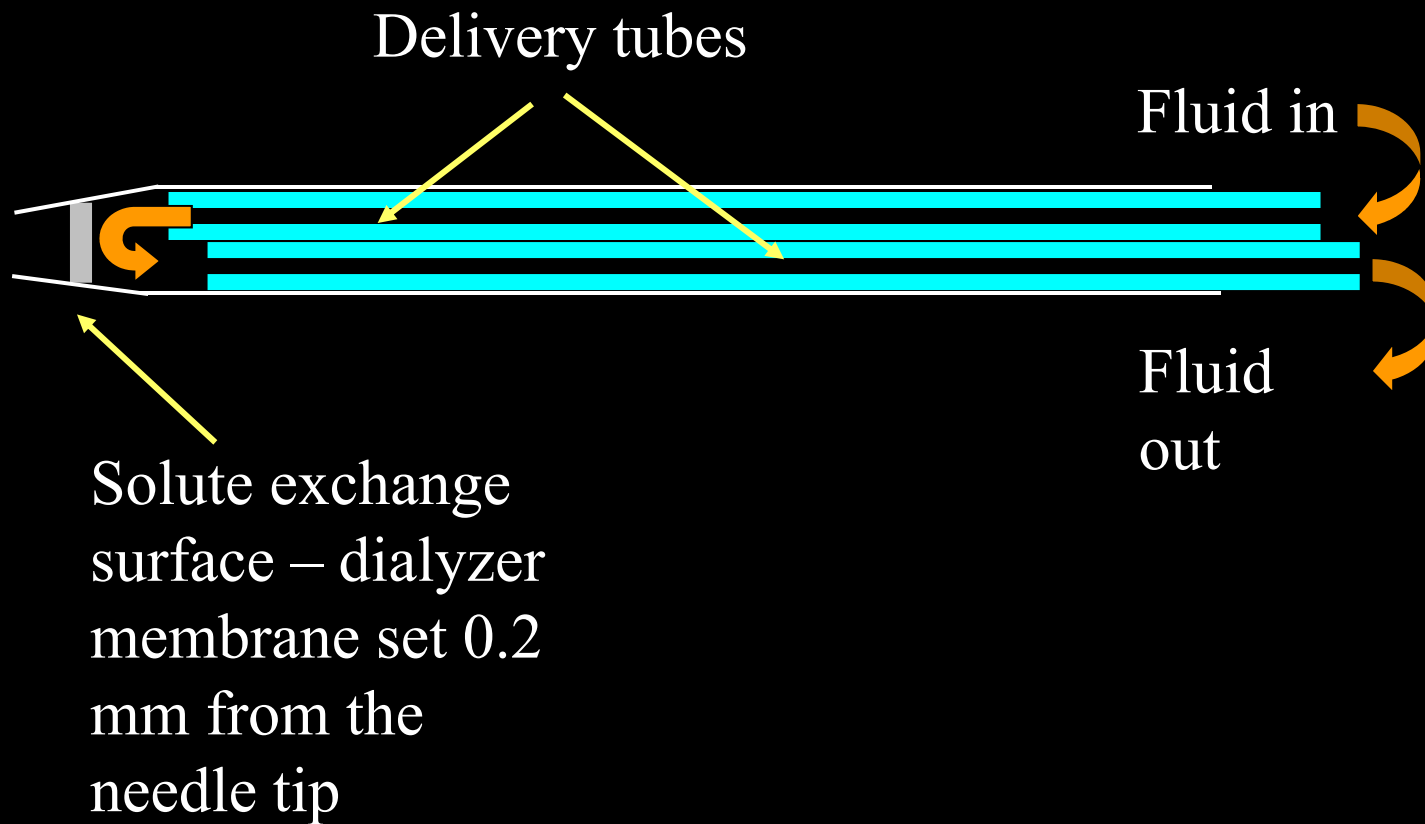


Clinical findings

Underlying milieu?

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Microdialysis/Acupuncture Needle



Shah JP et al. J Appl Physiol. 2005 Nov;99(5):1977-84.

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Results

Active MTrPs compared to
Latent MTrPs and to
Normal Muscles

Measurement

**Pressure Pain
Threshold (PPT)**

↓ **P < 0.08**

pH

↓ **P < 0.03**

**Substance P,
CGRP**

↑ **P < 0.01**

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Scientific Evolution

- Basic Scientists must explore other theoretical models of “How Acupuncture Works”
 - ✿ Must get beyond Endogenous Opioid Mechanism
 - ✿ Scientific Model must be able to explain
 - Point specificity, angle, methods of stimulating
 - Local – Distal relationships between points
 - Somato-Visceral/ Viscero-Somatic Relationships
 - Disease Modification