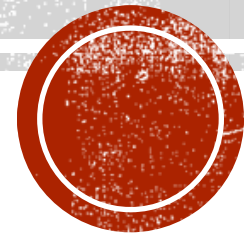


UNDERSTANDING COMPLEMENTARY PRACTICES IN AN INTEGRATIVE PAIN MANAGEMENT SETTING

What is the place of complementary medicine in a pain management program?

Vadan Ritter, L.Ac.



FINANCIAL DISCLOSURE

- I have no significant relevant financial interests or other relationships with manufacturers of any pharmaceutical product or medical device.



BRIEF BIO: VADAN RITTER, L.AC.

- Licensed Acupuncturist
- MS Oriental Medicine
- Massage Therapist
- Movement Educator
- Over 20 years of Integrative Public Health Experience!



GOAL FOR TODAY'S TALK...

- Deepen your understanding and appreciation of complementary medicine
- Share the specific ways that complementary medicine is being implemented in the Integrative Pain Management Program (IPMP)!



WHAT IS THE “IPMP?”

- 12 week multi-modal treatment program for San Francisco Health Network Primary Care patients living with chronic pain.
 - Currently serving Tom Waddell Urban Health Clinic, Curry Senior Center, Castro-Mission Health Center, and Maxine Hall Health Center.
- Treatments are non-medication based and offered in both group and individual sessions.
 - Includes acupuncture, massage, mindfulness, movement, cognitive behavioral therapy curriculum, medication and neuroscience education, health coaching, and community building.



KEY PREMISES OF HOW INTEGRATIVE MODALITIES ARE INCORPORATED IN IPMP

- Inclusion of evidence based complementary modalities
- The urgency of our current opioid crisis necessitates more complementary approaches
- Health care is stronger and more effective if done in an interdisciplinary fashion



HOW DO THESE WORK AND HOW ARE THEY WORKING?

- What connects the different evidence based integrative modalities being utilized in IPMP?
 - These all share the perspective that the body, mind and emotions have an intrinsic capacity to self-regulate and repair themselves if given the right prompting.



Chronic pain is long-lasting pain that can be hard to treat.

Usually it begins with an illness or injury. This causes a pain sensation that is like a small snowball rolling downhill.



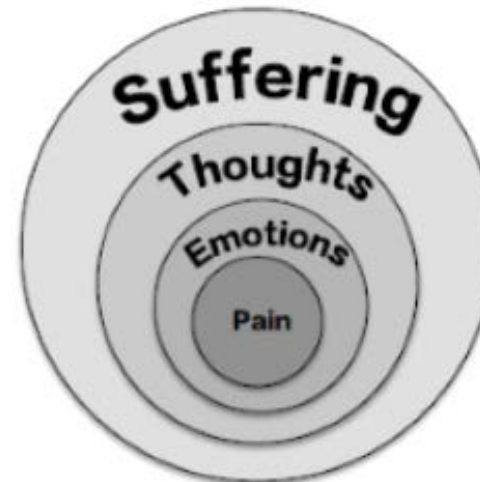
As it rolls, the snowball picks up more snow and begins to grow. In a similar way, the sensation of pain causes emotions, like **fear, anger, and sadness.**



These emotions lead to thoughts, like **"this pain will never go away"** and **"why is this happening to me?"**



Over time all the pain, emotions and thoughts can cause significant suffering. Often the suffering continues even after the original illness or injury has resolved.

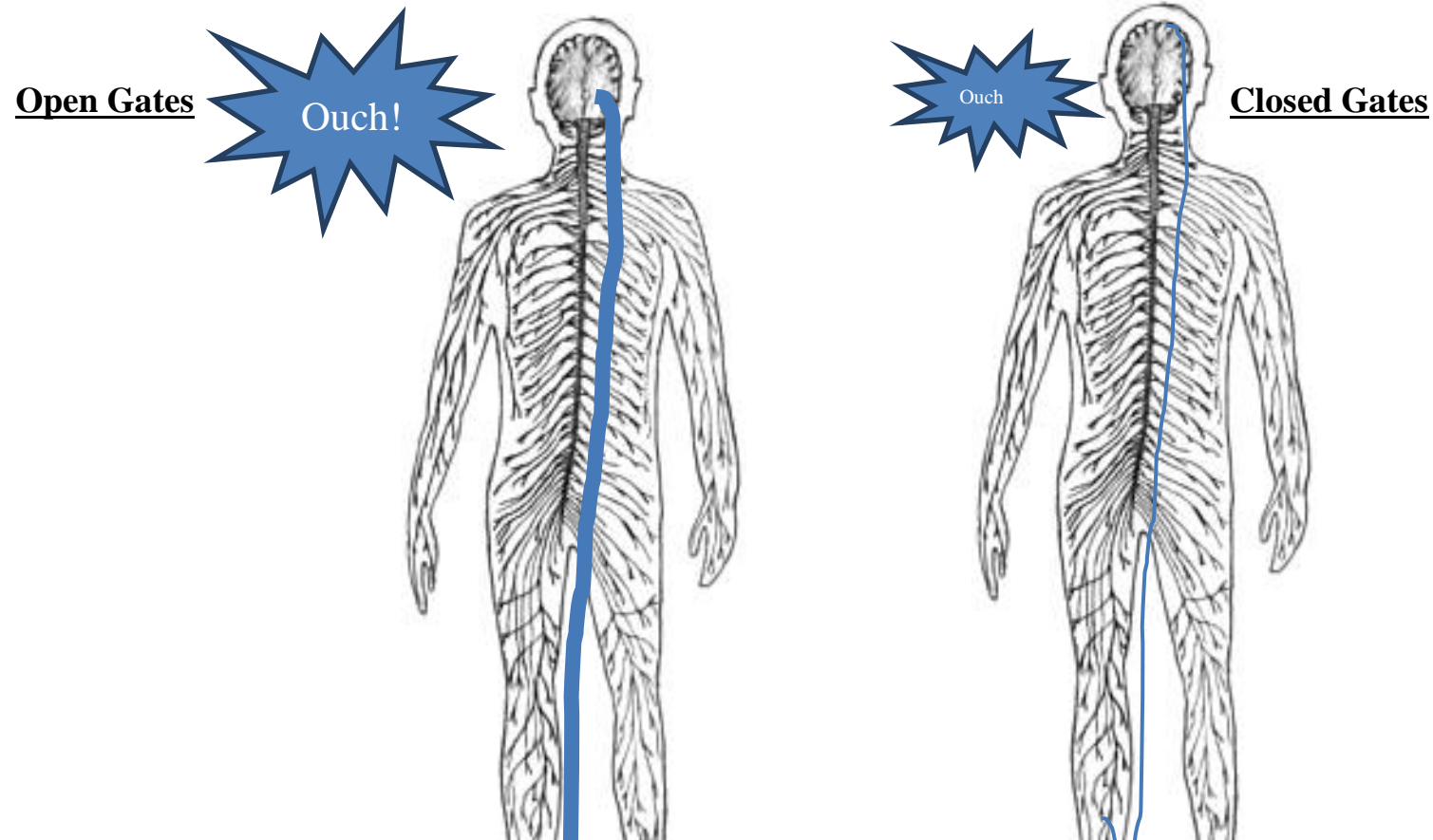


- The complementary practices that we offer are ways to untangle the basic pain impulses from the various ways that our thoughts and emotions amplify it and to turn the volume down on the way that the nervous system maladaptively overamplifies the basic pain response.



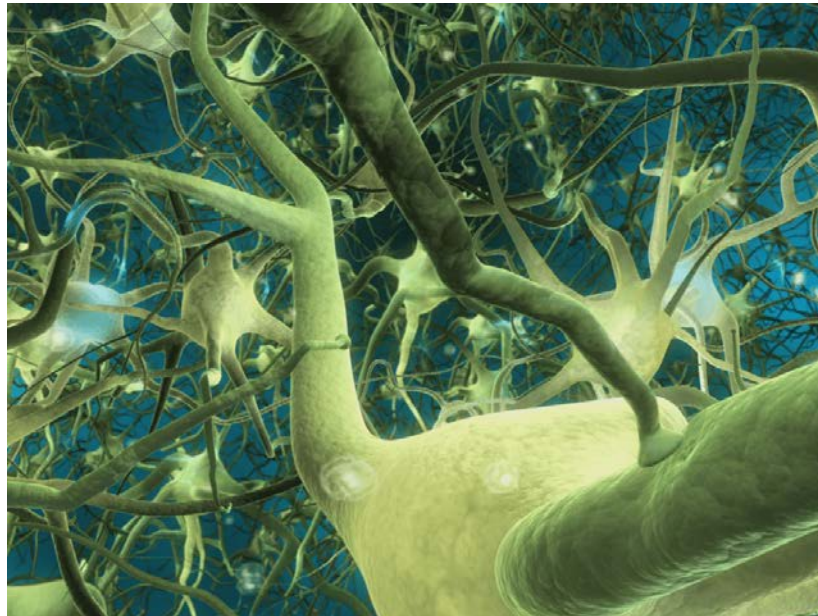
IDEAS ABOUT WHY ACUPUNCTURE HELPS WITH PAIN

- **The Gate Theory of Pain-** earliest attempt to understand from a western perspective the effect that acupuncture has on pain.



Pain and Neuroplasticity: Our nervous system has a highly adaptive nature with regard to pain, and this “plasticity” occurs in maladaptive, as well as therapeutic ways.

- It is hypothesized that acupuncture is effective at treating pain because it disrupts and reroutes the body’s basic pain mechanisms



THERAPEUTIC INSIGHTS ABOUT PAIN FROM CHINESE MEDICINE, YOGA, TAI CHI CHUAN, AND QI GONG

- The Model of Qi as a Network of Oceans, Rivers and Streams



WHAT CAUSES PAIN?

- Stagnation of Qi and blood in the channels
- Crossovers with Western understandings about pain
 - Lack of tissue repair
- Therapeutic approaches to musculoskeletal pain from Eastern and Western medicine
 - Increase circulation, lymph, and blood flow to specific areas of the body to enhance tissue repair



WHAT IS MINDFULNESS AS APPLIED TO PAIN MANAGEMENT?

- Mindfulness meditation provides numerous tools to help people access their resiliency and decrease their experience of suffering as it relates to pain. It is a specific meditation practice that involves the observation of sensory, mental and emotional phenomenon as they emerge in an individuals field of awareness.
- Some basic ideas and ways of working with pain in mindfulness practice; process and intended therapeutic outcomes



THE WAYS THAT MINDFULNESS WORKS

- By delinking the mental and emotional factors that aggravate the experience of pain, patients are able to achieve a higher level of functionality, a greater sense of well being, and more autonomy over their experience of pain. Anecdotally, they may reduce their reliance on opioid medications.
- Some clinical programs that have studied and implemented mindfulness include the Cleveland Clinic and Kaiser Health Network
- Neuroplastic Changes in Brain Function with Mindfulness:
 - “Evidence suggests that mindfulness practice is associated with neuroplastic changes in the anterior cingulate cortex, insula, temporally-parietal junction, frontolimbic network and default mode network structures, p 1-2, “Evidence-based Mindfulness: What Science Tells Us About Mindfulness Meditation and its Benefits”



MOVEMENT FOR CHRONIC PAIN

- Overall Intention- to create a multimodal exercise program that empowers people who don't exercise or stretch to move, while also engaging more active participants in ways that encourage a safe approach to their exercise and stretching regimens.
- Breath Centered Exercises as an important component for a chronic pain program.
- Key Principles for Movement and Stretching in IPMP



THE INTENTION OF THERAPEUTIC EXERCISE IN AN IPMP

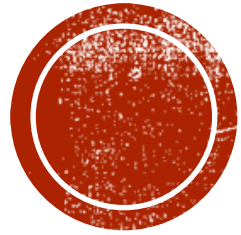
- Bring circulation, lubrication and cell repair to all parts of the body
- Create new patterns of movement and posture that are in greater integrity with the body's structure
- Strengthen the muscles that support the musculoskeletal system, especially the spine, knees, ankles, shoulders and low back.
- Create more length in the body, especially exercises to gently traction the spine
- Use it or lose it, unless we move an area, it will lose circulation and function
- Bring the body, mind and breath into harmony; to bring patients into a closer relationship of their own body
- Teach Patients Pacing
- Empower patients with the knowledge of self care practices that are particular to them



SOME OBSERVATIONS ABOUT THE IPMP

- The services that we offer are improved by a qualitative enhancement of the therapeutic relationships between patients and practitioners.





INTEGRATIVE PAIN MANAGEMENT PROGRAM

Acupuncture & Massage data

Frank Sidders, MPH

INTRODUCTION

- IPMP satisfaction surveys administered at each Graduation
- Acupuncture questions expanded at Cohort 4 to 7 (N=47)
- Massage questions expanded at Cohort 5 to 7 (N=37)



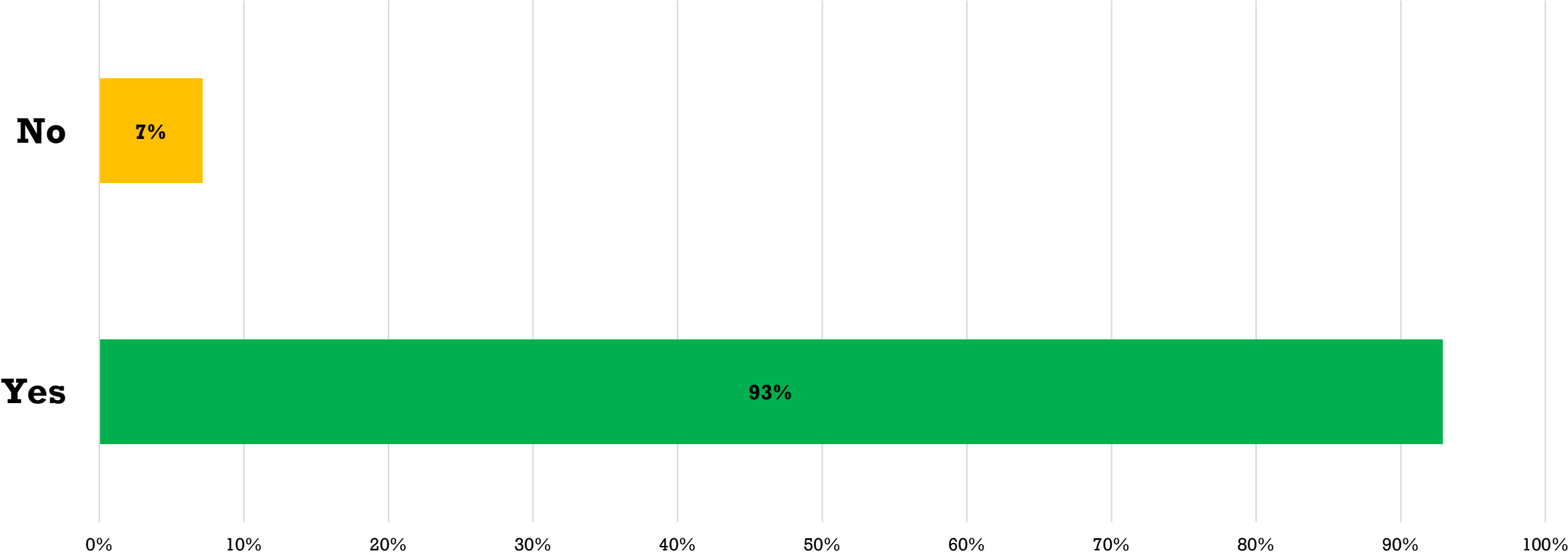
ACUPUNCTURE

- Cohorts 4 to 7

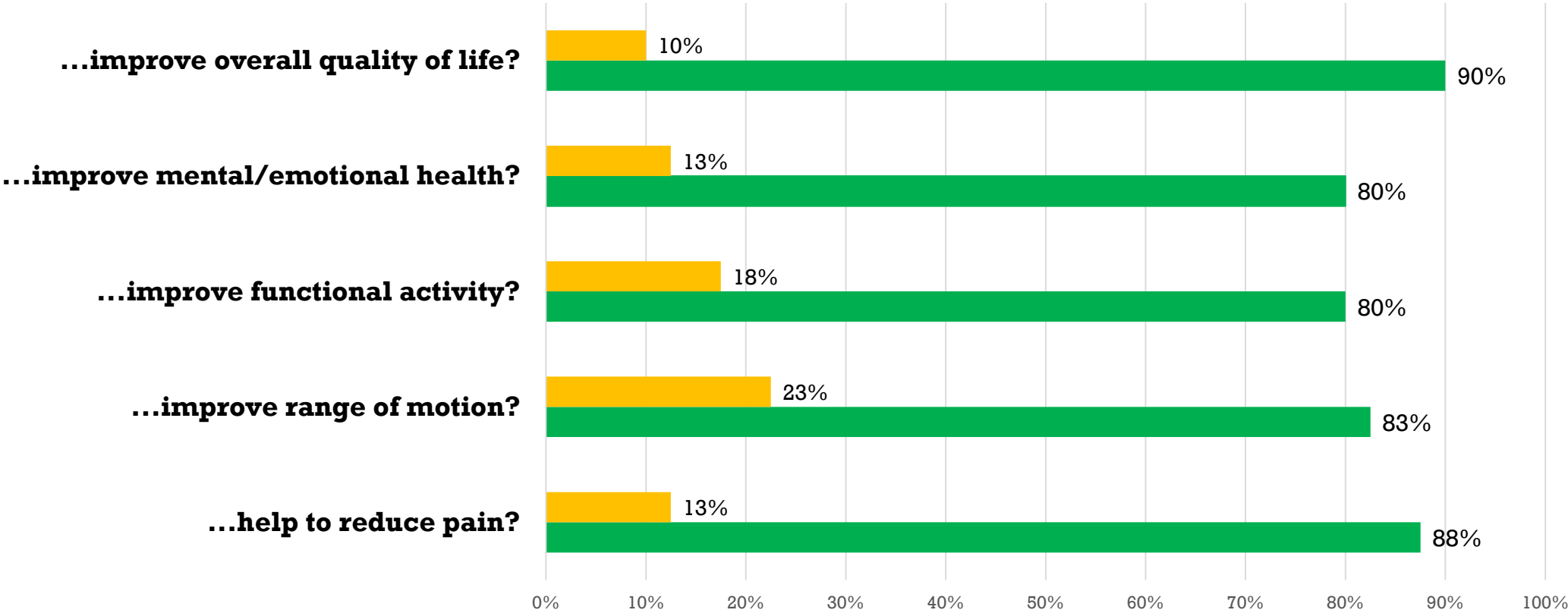


DID YOU RECEIVE ACUPUNCTURE? (N=42)

Did you receive acupuncture?



IF YOU RECEIVED ACUPUNCTURE, DID IT... (N=40)



DID ACUPUNCTURE HELP TO REDUCE PAIN?

- *“There were so many benefits to getting this as a form of treatment, I would love to continue this.”*
- *“Do not need pain pills as often”*
- *“It’s a placebo.”*
- *“I think I am experiencing less pain.”*
- *“I was able to relax for 2/3 days after.”*



DID ACUPUNCTURE IMPROVE FUNCTIONAL ACTIVITY?

- *“more limber”*
- *“not really sure”*
- *“released muscle tension”*
- *“very little; it helped in driving my car”*
- *“I have more ability to walk or stand up, sit down afterwards.”*



DID ACUPUNCTURE IMPROVE MENTAL/EMOTIONAL HEALTH?

- *“Since I could move better I had less stress.”*
- *“Less sad, more hopeful”*
- *“Helped me be calmer, happier, less stressed”*
- *“Not really sure”*
- *“Relieved stress & anxiety”*

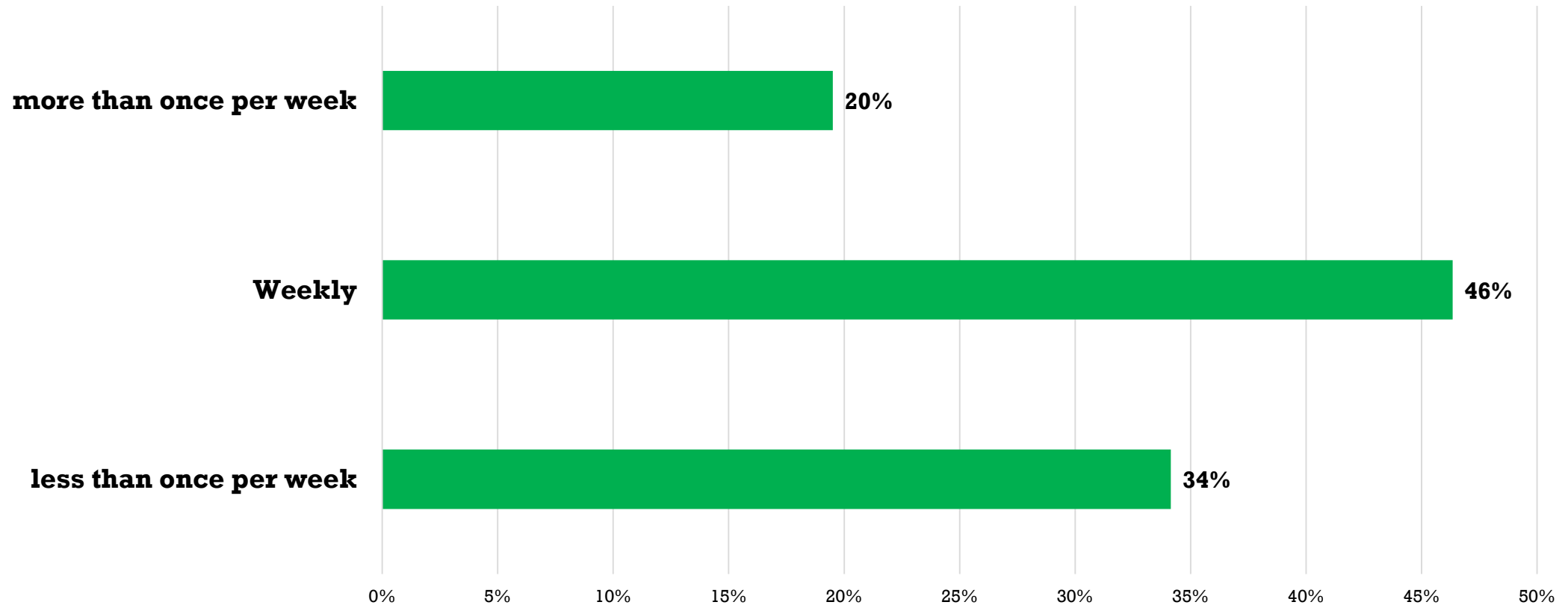


DID ACUPUNCTURE IMPROVE OVERALL QUALITY OF LIFE?

- *“Drastic change in my life overall, improved everything”*
- *“I’d like to believe so to make this more positive”*
- *“Yes, can’t explain it, just feels good to try doing more than sitting”*
- *“After acupuncture more of less pain temporary”*
- *“Not really sure”*

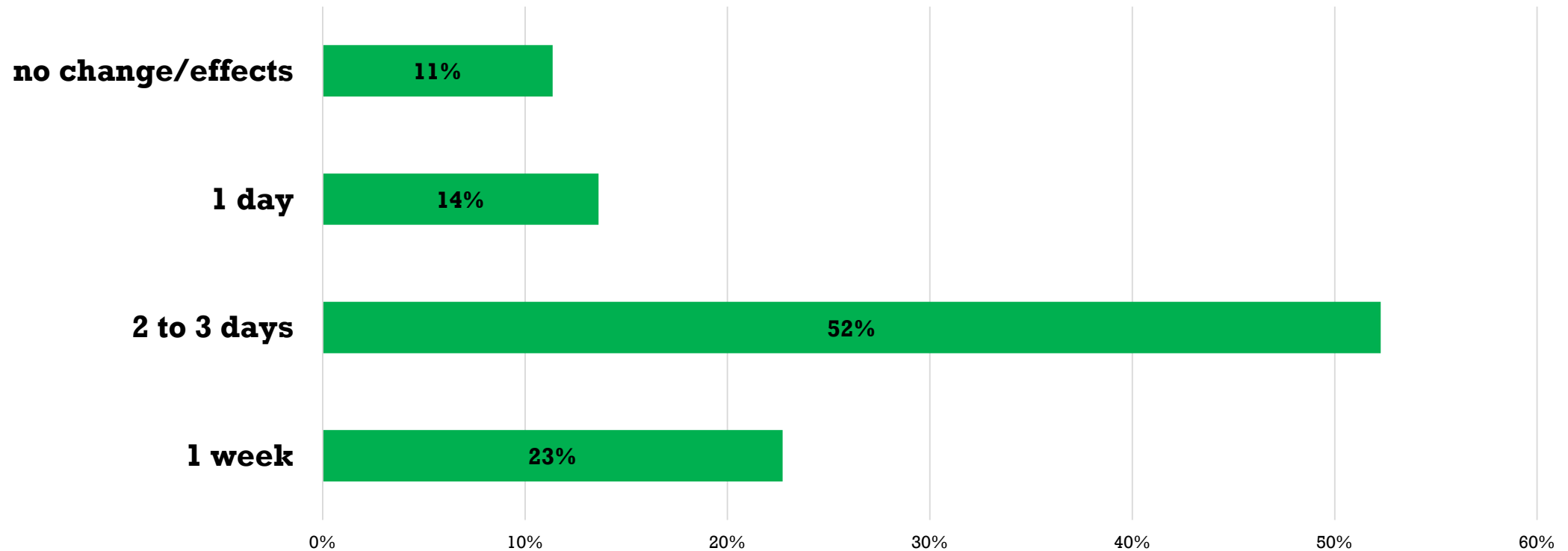


HOW MANY TIMES PER WEEK DID YOU RECEIVE ACUPUNCTURE TREATMENT? (N=41)



HOW LONG DID THE EFFECTS OF ACUPUNCTURE LAST? (N=44)

How long did the effects of acupuncture last?



REASONS FOR NOT GETTING ACUPUNCTURE:

- *“the location of the group was too cold”*
- *“The acupuncture offered in group did not help, but the one on one was phenomenal with Candice!”*



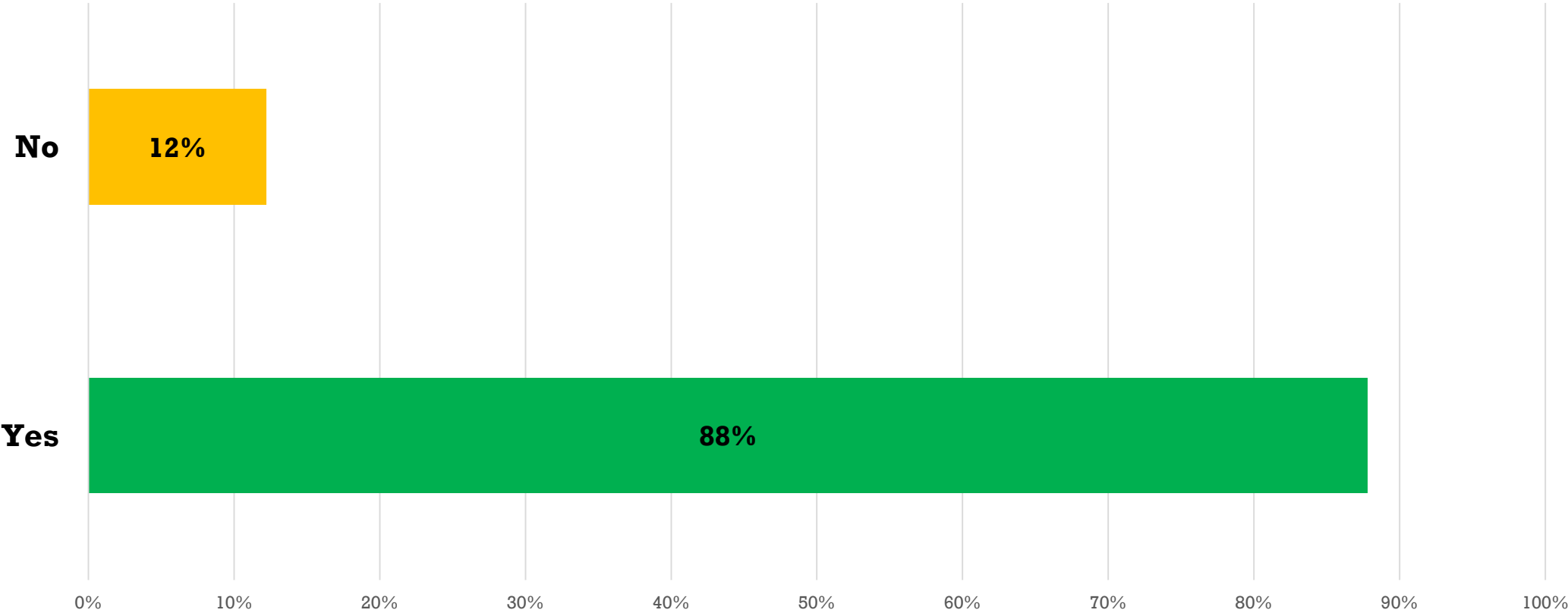
MESSAGE

- Cohorts 5 to 7

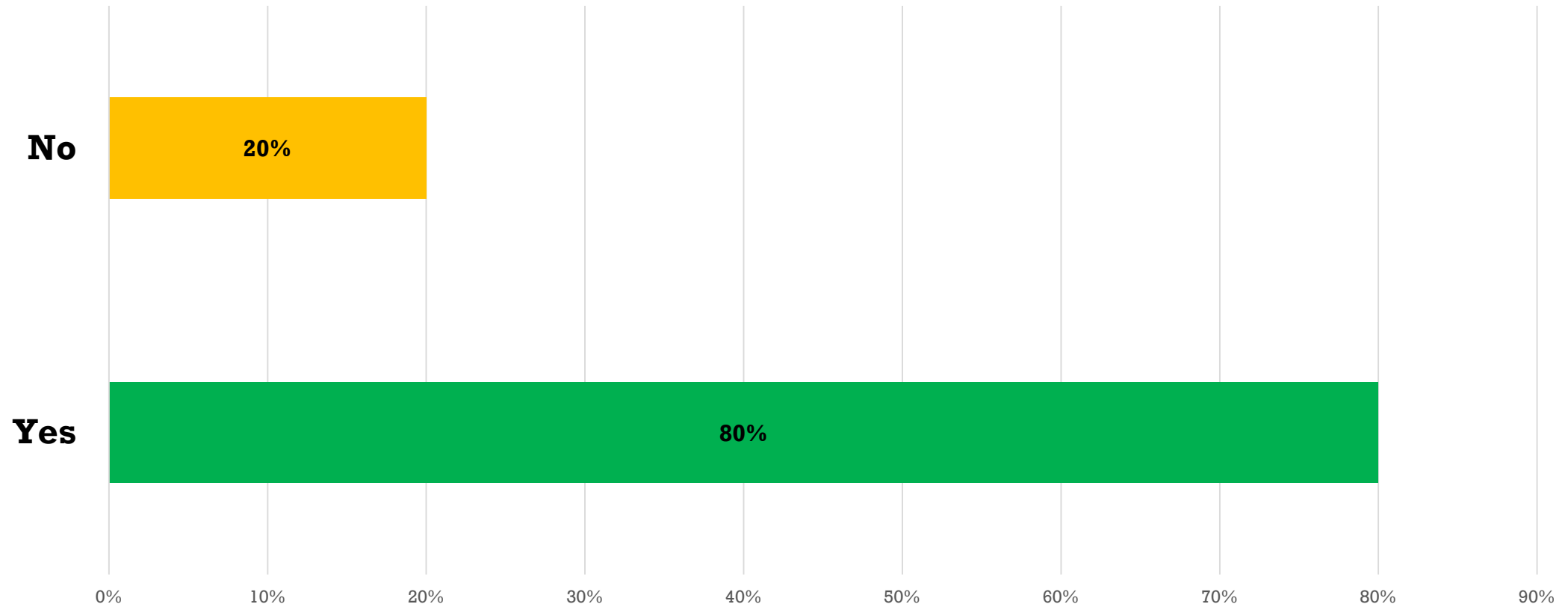


DID YOU RECEIVE MASSAGE TREATMENT?

(N=41)

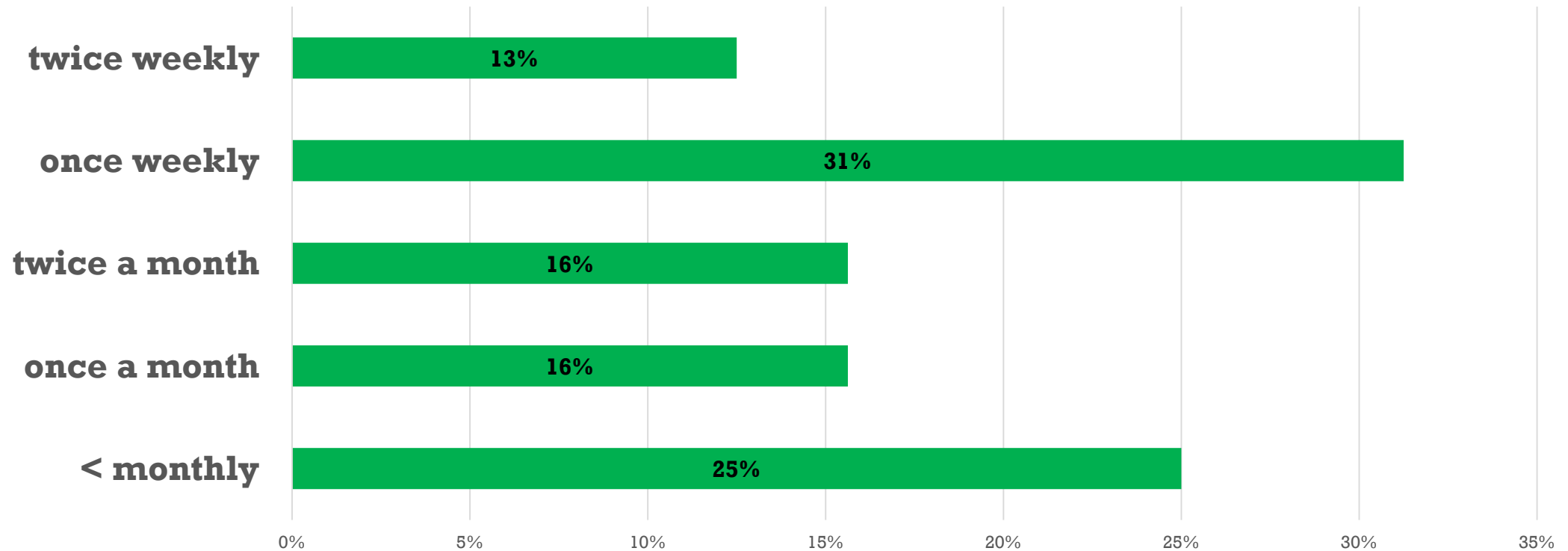


DID MASSAGE HELP YOU MANAGE YOUR PAIN? (N=30)

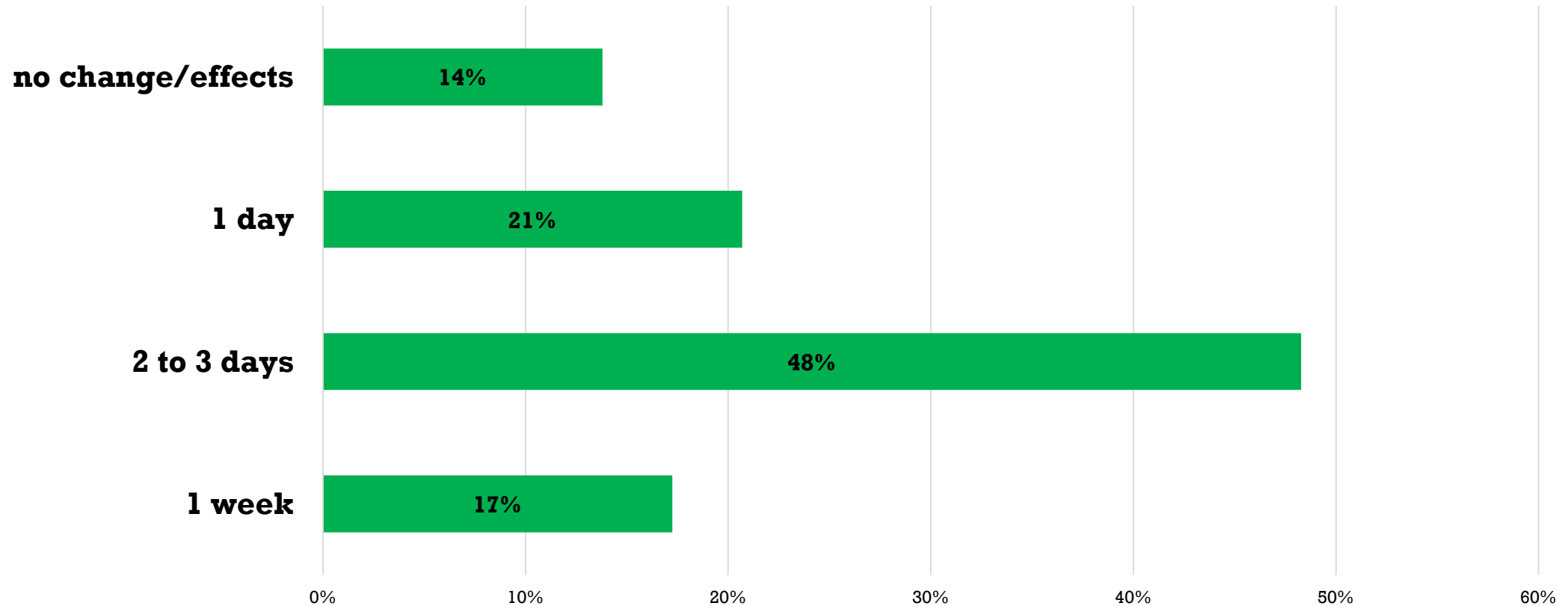


IF YES, HOW OFTEN DID YOU RECEIVE MASSAGE? (N=32)

If yes, how often did you receive massage?



HOW LONG DID THE EFFECTS OF MASSAGE LAST? (N=29)



WHAT OTHER BENEFITS (OTHER THAN RELIEF FROM PAIN) DID YOU EXPERIENCE FROM MASSAGE?

- “Massage helped relieve the effects of stress on my body”
- “Made me feel more relaxed and mindful”
- “peace of mind and confidence in managing my pain”
- “relief from stress and depression”
- “relaxation”



HOW DID MASSAGE AFFECT YOUR RELATIONSHIP WITH YOUR OWN BODY? PLEASE EXPLAIN

- *“I listen more to my body”*
 - *“Easier to maneuver through life sometimes”*
 - *“felt like a new person – relaxed”*
 - *“no”*
 - *“none”*
-
- This question was removed from C7 survey



HOW WILL YOU CONTINUE TO INCORPORATE MASSAGE INTO YOUR LIFE AFTER THIS PROGRAM?

- *“do more self-massage”*
- *“need to find a massage therapist”*
- *“continuing with the graduate Thursday class”*
- *“none”*
- *“I guess I got to pay someone”*
- *“with the round balls” | “using the massage balls for one”*



REASONS FOR NOT GETTING MASSAGE

- *“tense shoulders, neck, back pain, headaches”*
- *“past experiences didn’t make me think it would be worth it.”*
- *“no reason”*
- *“would have done more, incredible, everyone could not be schedule on days of class”*
- *“was very painful”*



IPMP PILOT (2016)

REFERRALS / ATTENDANCE / SATISFACTION

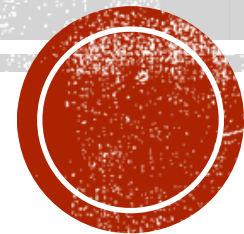
- 146 patients referred (102 eligible/reached)
- All primary care providers referred at least 1 patient
- 58 patients attended ≥ 1 Home Group session
- 65% of those attended $> 75\%$ of Home Group sessions
- Majority attended ≥ 1 of each type of other session
- Average overall experience with IPMP (graduation survey) – 4.0
 - Range 1 (completely unsatisfied) to 4 (completely satisfied)



A SKEPTICS OVERVIEW OF ACUPUNCTURE

R. Jan Gurley, M.D.

September 13, 2018



CONFLICTS OF INTEREST DISCLOSURE

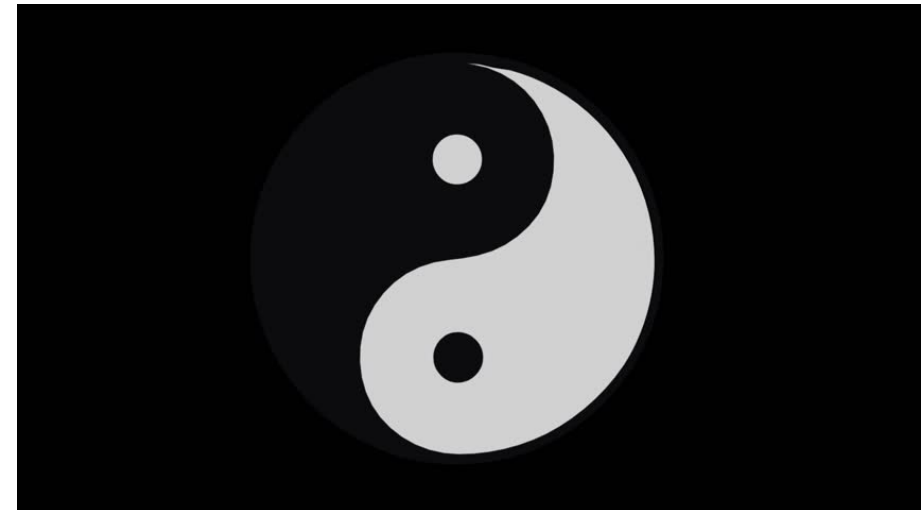
- **None**

- Specifically, I have no financial interests to disclose. I am a salaried DPH physician-employee who is paid the same **regardless of:**
 - How many patients I see
 - Whether I am doing acupuncture or not
 - Whether I am doing primary care or not
 - Whether I write prescriptions or not



GURLEY ISSUE #1

- A perception that belief is necessary
- How safe is safe?
 - Non-sterile needles
 - Improper delivery
 - 2 million treatments, over 200,000 patients – one review
- Bias and the language of traditional Chinese medicine
 - Spleen deficiency
 - Dampness
 - Floating pulse
 - Free and easy wanderer



GURLEY ISSUE #2

- “Proof” and the inverse relationship between profit and controversy
- So many bad studies – acupuncturists are not health services researchers
- Acupuncture is a chess match
 - Impact on blinding
- Debates regarding sham acupuncture versus traditional acupuncture
 - Effect of sham
 - Customization versus standardization

A New Acupuncture Study Is One of the Worst Studies I Have Ever Seen




By [Ross Pomeroy](#)
April 28, 2018


A new [meta-analysis](#) published in *PLoS ONE* comparing acupuncture and drugs for the treatment of chronic constipation is one of the worst studies I have ever seen. Chinese researchers from Longhua District Central Hospital in Shanghai, China found that "acupuncture is more effective than drugs in improving chronic constipation and has the least side effects," but they came to that conclusion by employing misleading tactics intended to produce that result.



THE PROBLEM WITH SHAM ACUPUNCTURE

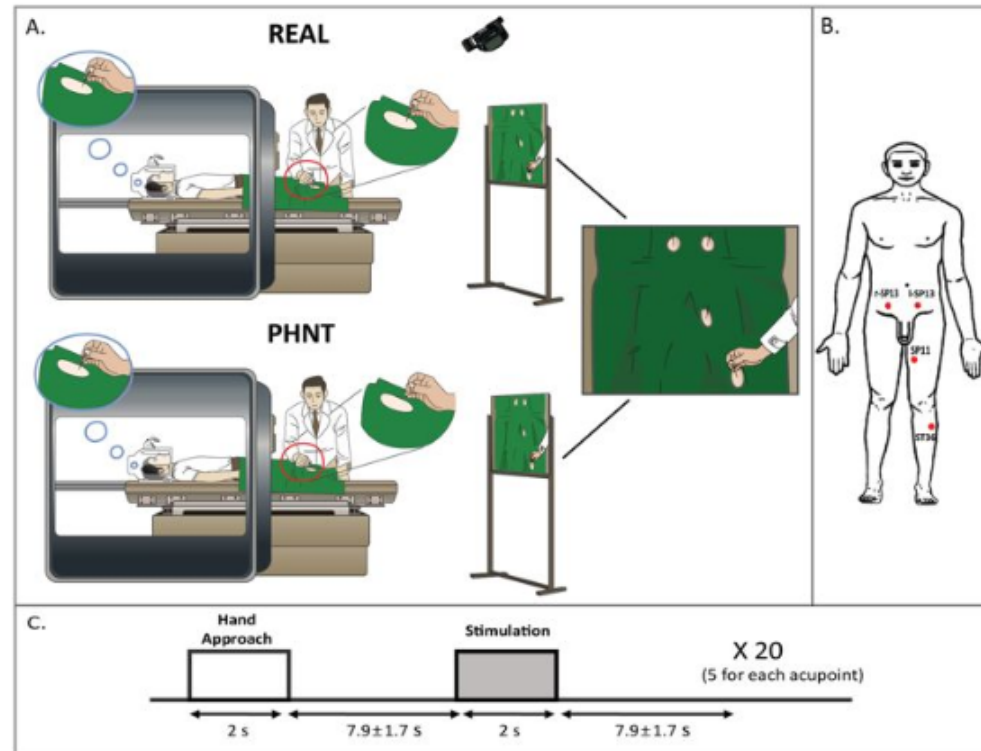
Phantom Acupuncture Induces Placebo
Credibility and Vicarious Sensations: A
Parallel fMRI Study of Low Back Pain
Patients

Meena M. Makary, Jeungchan Lee, Eunyoung Lee, Seulgi Eun, Jieun Kim, Geon-Ho Jahng, Kiok Kim,
You-Suk Youn, Jun-Hwan Lee & Kyungmo Park 

Scientific Reports **8**, Article number: 930 (2018) | [Download Citation](#) 



FAKING IT



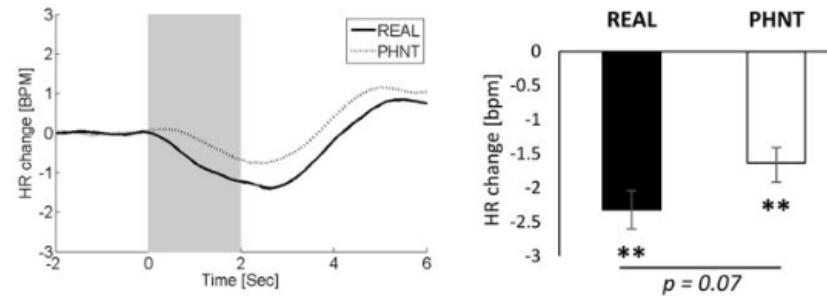
Experimental protocol. **(A)** Experimental setup for real (REAL) and phantom (PHNT) acupuncture stimulation. In REAL, participants got stimulated in four acupoints while watching the stimulation procedure via back projection, whereas in PHNT, no afferent stimulation was given to the participants. Instead, they watched a recorded video clip of a real stimulation. **(B)** The acupuncture stimulation point (acupoint) locations (ST36, SP11, and r, l-SP13). **(C)** The event-related experimental paradigm, which consisted of five acupuncture stimulations per acupoint; each stimulation was 2 sec long, and the average inter-stimulus interval was 7.9 ± 1.7 sec. n.b. REAL, real acupuncture; PHNT, phantom acupuncture.



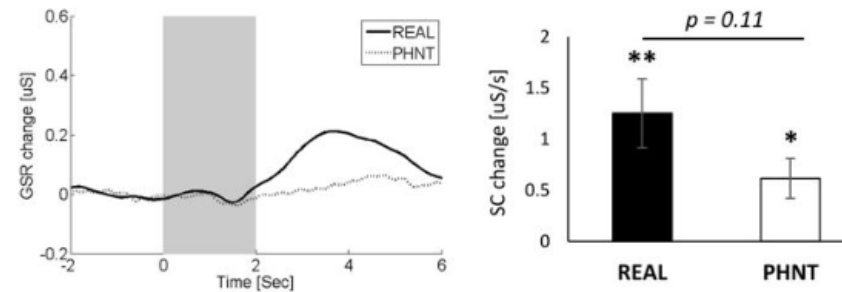
RESULTS OF SHAM VS. VERUM

ANS Response to Acupuncture Stimulation: HR and SCR

A. Heart Rate



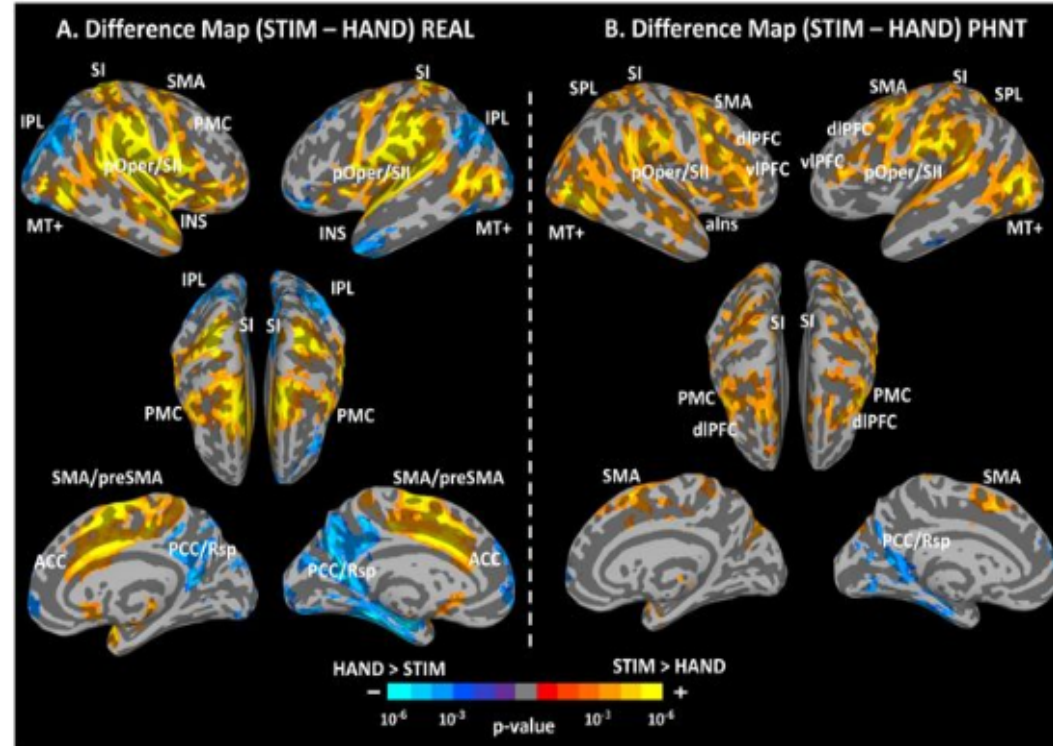
B. Sudomotor (Skin Conductance) Response



ANS response to acupuncture stimulation. (A) Decreased heart rate was noted following both of REAL and PHNT acupuncture stimulation events. (B) Increased phasic sudomotor (skin conductance) response was also noted in response to REAL and PHNT acupuncture stimulation events. N.b. * < 0.01, ** < 0.001. Error bars represent standard error of the mean.



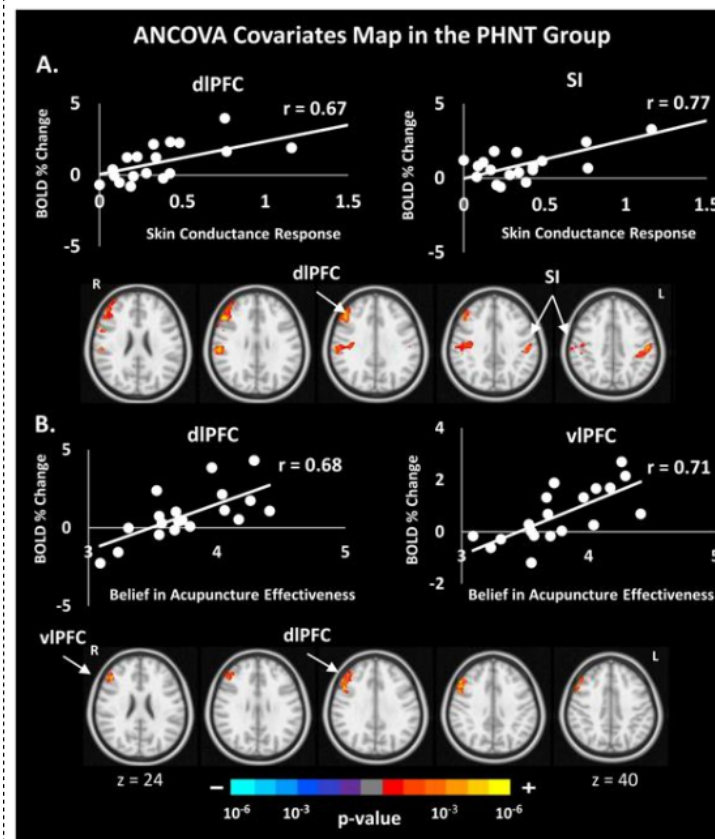
MIRROR THERAPY



Difference maps between REAL/PHNT stimulation (STIM) events and hand approach (HAND) events for REAL and PHNT groups. **(A)** In REAL, STIM showed greater activation in the SI, pOper/SII, pIns, ACC, MI, SMA/preSMA, and MT+, and deactivation in the IPL and PCC/Rsp than HAND. **(B)** In PHNT, STIM showed greater activation in the SI, pOper/SII, vIPFC, dIPFC, SPL, MI, PMC, and MT+ than HAND.



EFFECT OF BELIEF IN ACUPUNCTURE



Correlation between subjective brain activity and the skin conductance response metric (A), and a score assessing belief in acupuncture effectiveness (B) for the PHNT group. The PHNT group, but not the REAL, has a significant correlation between sudomotor activity and fMRI signal in the right DLPFC and SI (A), and a significant correlation between subjective fMRI signals in the right DLPFC and VLPFC and average score assessing the expectation and belief










DOUBLE BLIND EFFECT OF DE QI

Evidence-Based Complementary and Alternative Medicine
Volume 2018, Article ID 8128147, 11 pages
<https://doi.org/10.1155/2018/8128147>

Research Article

A Double-Blind Study on Acupuncture Sensations with Japanese Style of Acupuncture: Comparison between Penetrating and Placebo Needles

Masako Nishiwaki ¹, Miho Takayama ^{1,2}, Hiroyoshi Yajima ^{1,2}, Morihiro Nasu ¹, Joel Park ³, Jian Kong ³ and Nobuari Takakura ^{1,2}

¹Department of Acupuncture and Moxibustion, Faculty of Health Sciences, Tokyo Ariake University of Medical and Health Sciences, 2-9-1 Ariake, Koto-ku, Tokyo 135-0063, Japan








²Department of Physiology, Showa University School of Medicine, 1-5-8 Hatanodai, Shinagawa-ku, Tokyo, Japan





³Department of Psychiatry, Massachusetts General Hospital, Harvard Medical School, Charlestown, MA 02129, USA

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Academic Editor: Ciara Hughes

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-  Full-Text PDF
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-  Full-Text ePUB
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-  Linked References
-  How to Cite this Article

 Views	1,136
 Citations	0
 ePub	2
 PDF	78



GURLEY ISSUE #3

- The How
- A need for a mechanism of action in Western medicine
 - Ginger – binds to serotonin receptors
 - Metformin - ??
 - When mechanisms of action are debunked
 - Statins and “pleiotropic effects” vs. “I don’t know”

SCIENCE OF US | MAR. 30, 2018

Do We Finally Understand How Acupuncture Works?

By Katie Heaney



PHYSIOLOGY UPDATES

- Veterinarian acupuncture
- Overproduction of cholecystokinin
 - 1/3 resistance
 - Cholecystokinin blocker in animals reverses
- Implications:
 - Difference in “lore”
 - No wash-out period in studies
 - Practical implication – if 6-8 treatments and no improvement, stop

CHARACTER STUDY

With a MetroCard and Needles, a Vet Makes House Calls



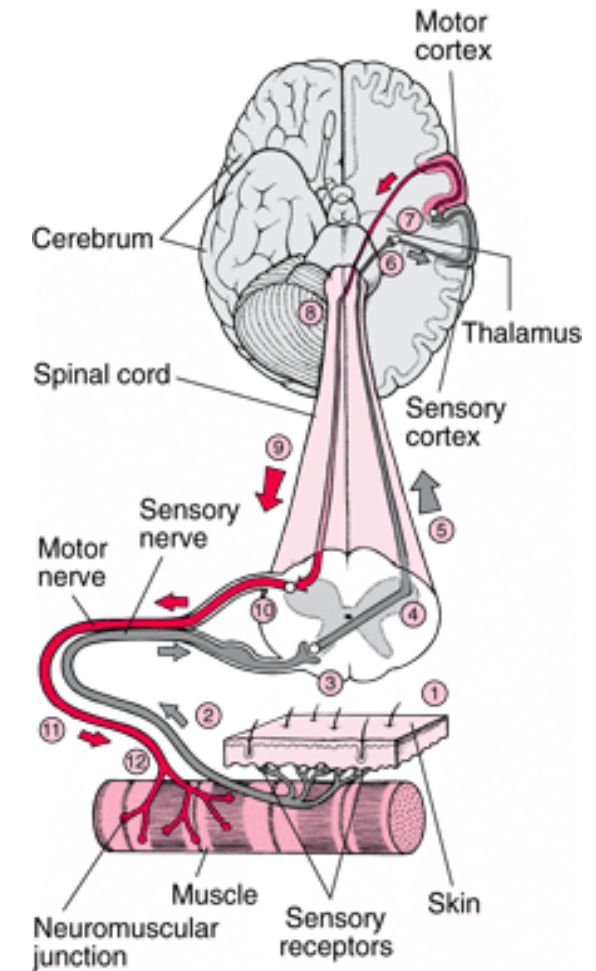
Dr. Jeff Levy performs acupuncture on Harpo, a 10-year-old toy fox terrier with a liver tumor.

Sarah Blesener for The New York Times



PHYSIOLOGY UPDATES

- Decades of searching for mechanism of action
- Role of the “new organ” – the Interstitium
- Role of more recent neurophysiology research
 - Brain sends out pain
 - Acupuncture as a brain modulator



BRAIN CHANGES WITH ACUPUNCTURE

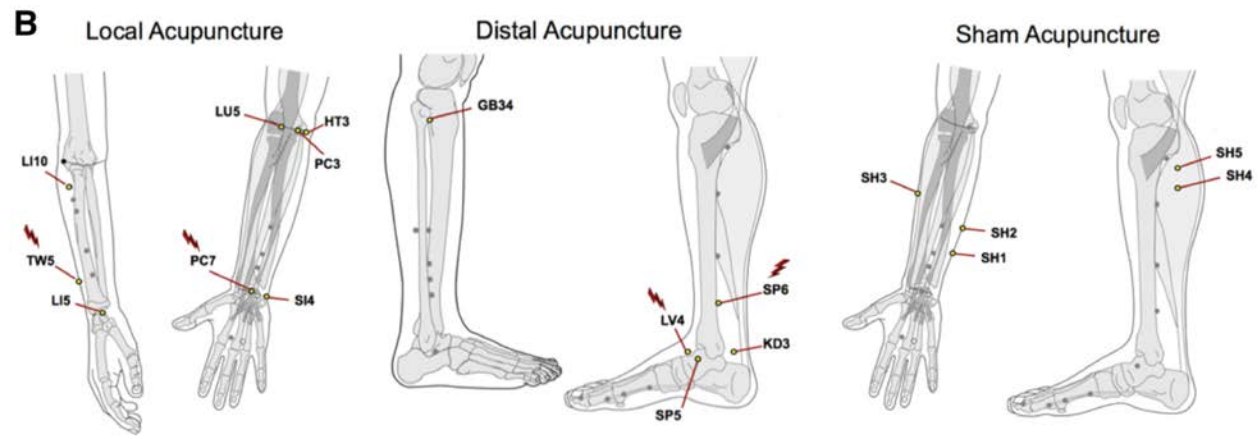
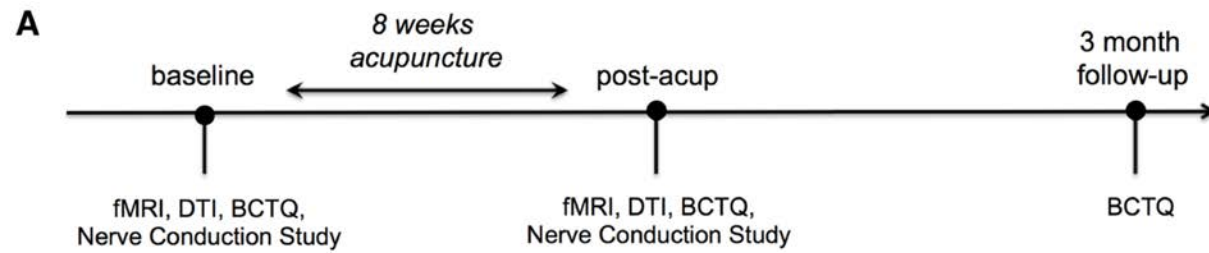
Rewiring the primary somatosensory cortex in carpal tunnel syndrome with acupuncture FREE

Yumi Maeda, Hyungjun Kim, Norman Kettner, Jieun Kim, Stephen Cina, Cristina Malatesta, Jessica Gerber, Claire McManus, Rebecca Ong-Sutherland, Pia Mezzacappa, ... [Show more](#)

Brain, Volume 140, Issue 4, 1 April 2017, Pages 914–927, <https://doi.org/10.1093/brain/awx015>

Published: 02 March 2017 **Article history** ▼





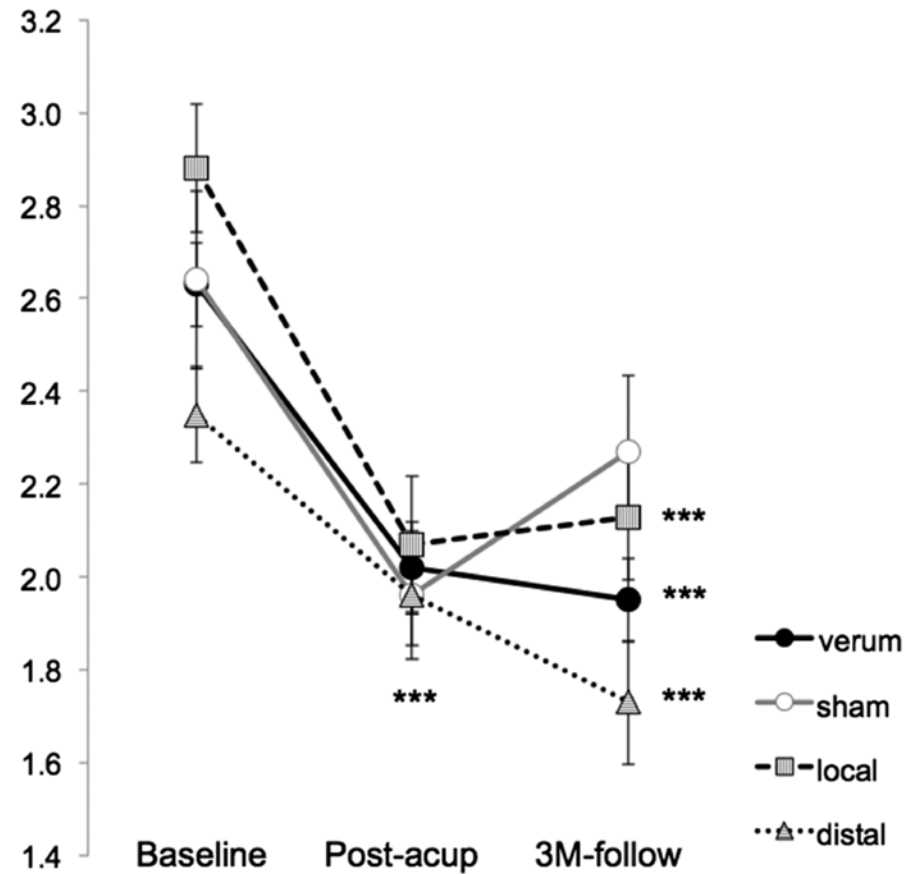
From: Rewiring the primary somatosensory cortex in carpal tunnel syndrome with acupuncture

Brain. 2017;140(4):914-927. doi:10.1093/brain/awx015

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BCTQ Symptom Severity Scale



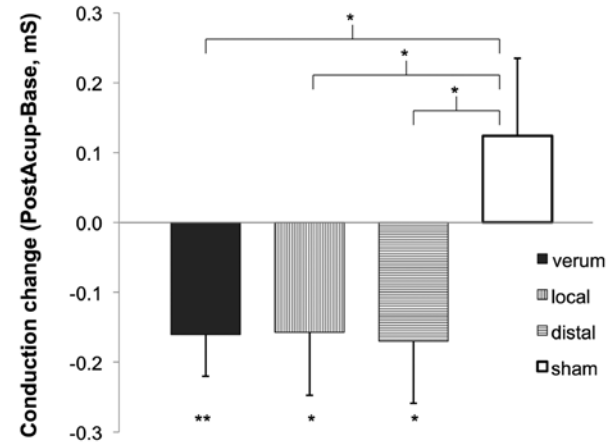
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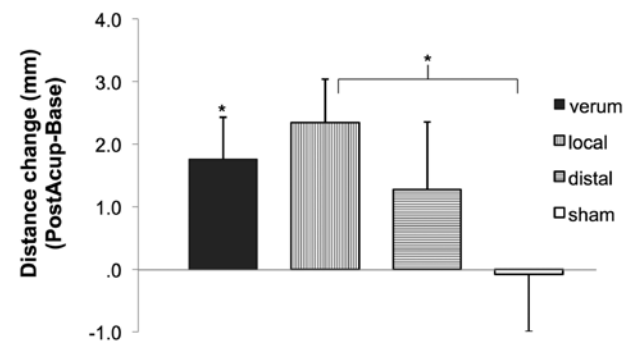
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A Median Nerve Conduction Latency



B D2/D3 cortical separation distance



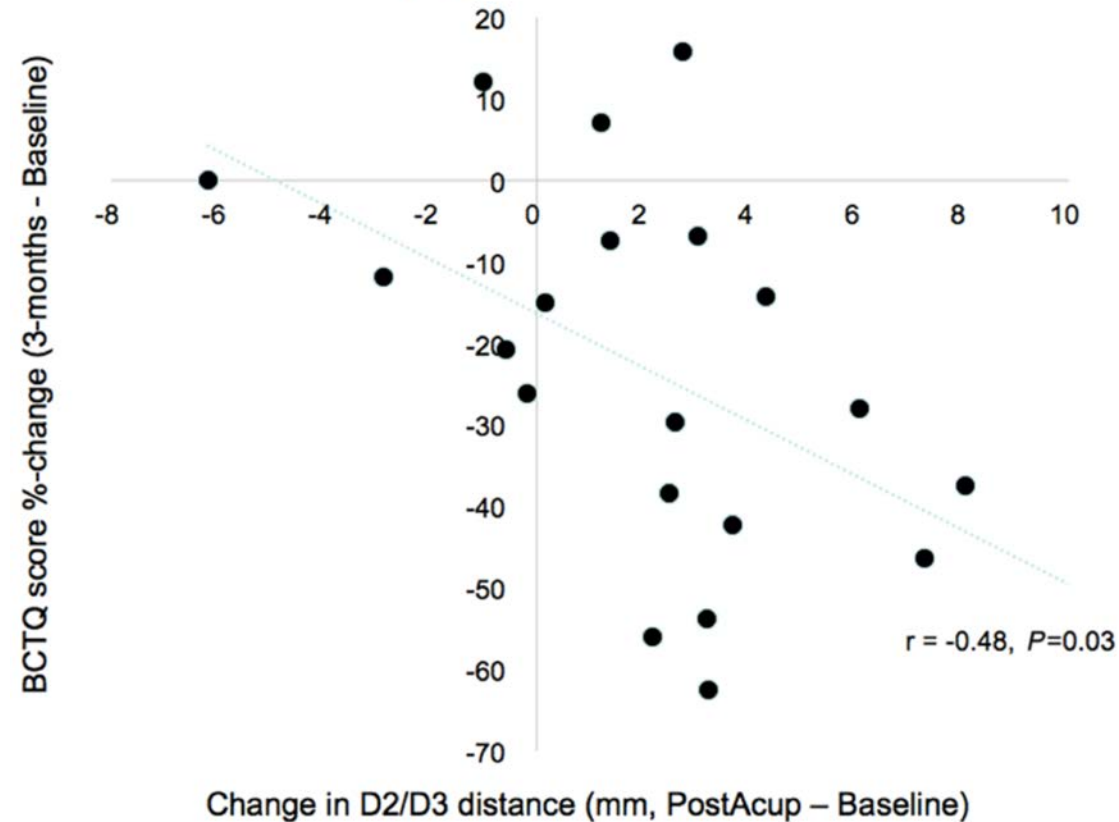
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Change in D2/D3 cortical separation distance predicts change in BCTQ symptom score at 3-months follow-up

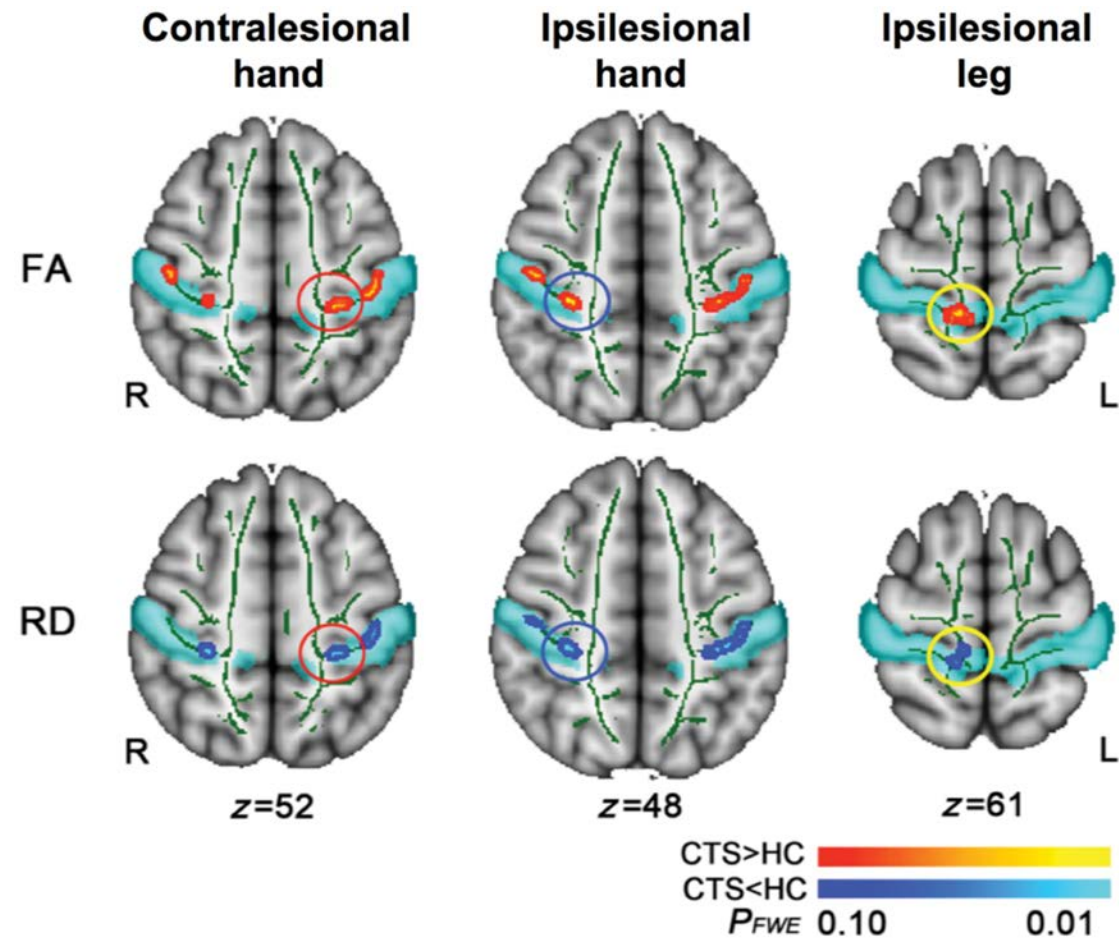


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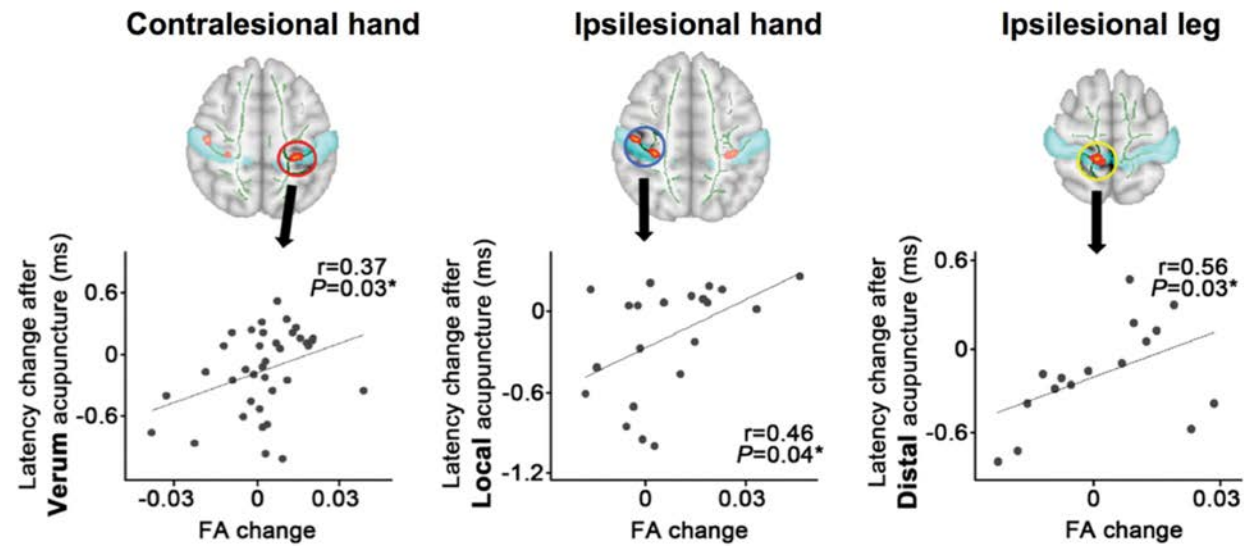


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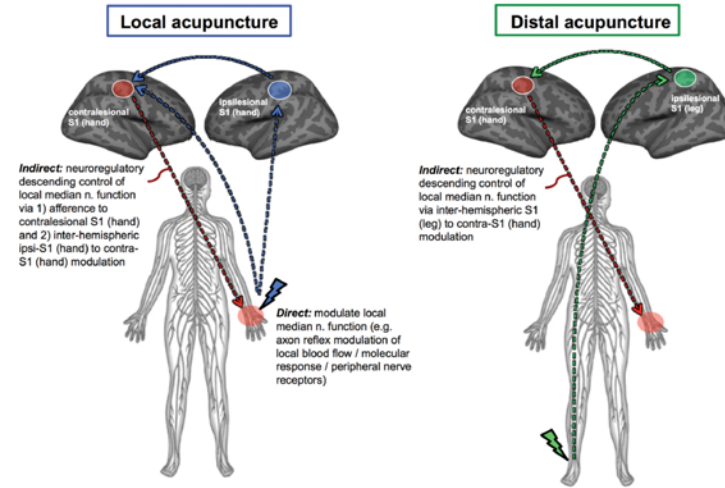
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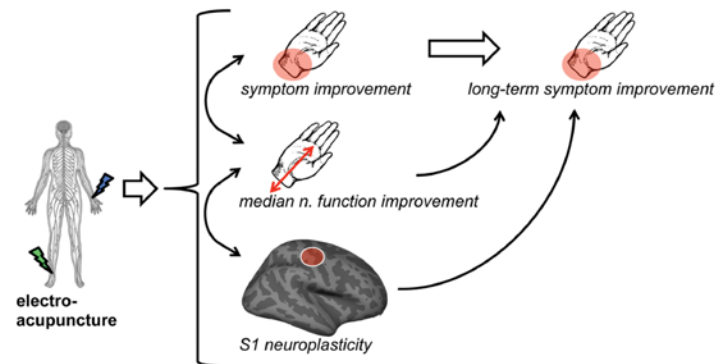
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A Model: Somatotopically distinct mechanisms for local vs. distal acupuncture for CTS



B



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BOTTOM LINE- AAFP:

- Safe
- Effective for 2/3 of patients
- Treats multiple symptoms simultaneously
- Customized treatment = personalized medicine
- Implicit bias against/opaque language
- Worst side effect is lack of efficacy or cost
- Acupuncture is a treatment modality like any other, not a belief

Research Finds Acupuncture Effective for Chronic Pain

May 21, 2018 09:32 am [Michael Devitt](#) – Chronic pain is a significant condition that affects millions of Americans. While family physicians play an important role for many of these patients, survey results indicate that [many physicians consider the training they received in pain management inadequate](#), (www.ncbi.nlm.nih.gov) and [may not feel comfortable](#) (www.ncbi.nlm.nih.gov) in their ability to care for patients with chronic pain effectively.



One therapy that has received considerable attention for the treatment of chronic pain is acupuncture. In an update of patient data meta-analysis [published in the May edition of the Journal of Pain](#), (www.jpain.org) researchers with the Acupuncture Trialists' Collaboration concluded that acupuncture is effective for the treatment of chronic pain, that the effects of acupuncture persist over time, and that the benefits of acupuncture cannot be explained away solely by the placebo effect.

Study Details

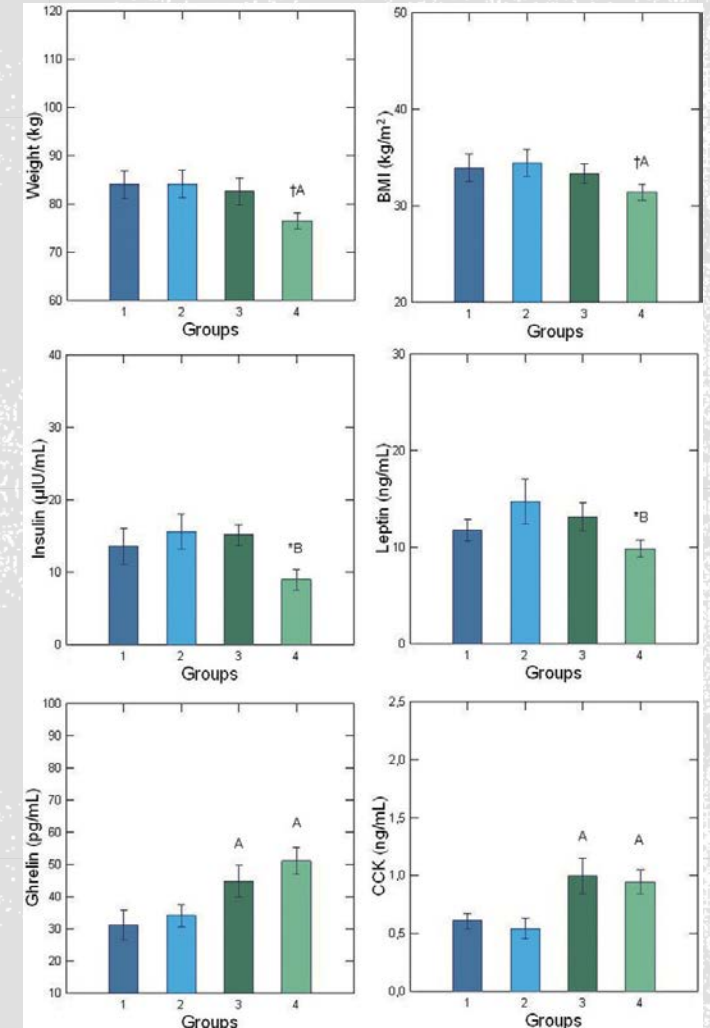
The *Journal of Pain* research updated a previous meta-analysis published by the same group of authors in 2012. In the [2012 meta-analysis](#), (www.ncbi.nlm.nih.gov) the researchers included patient data from randomized controlled trials (RCTs) published through November 2008. The new meta-analysis included eligible RCTs published between December 2008 and December 2015.



OBESITY, FULLNESS, DIABETES AND ACUPUNCTURE

Ghrelin, leptin, insulin and cholecystokinin respond to acupuncture in a blinded study

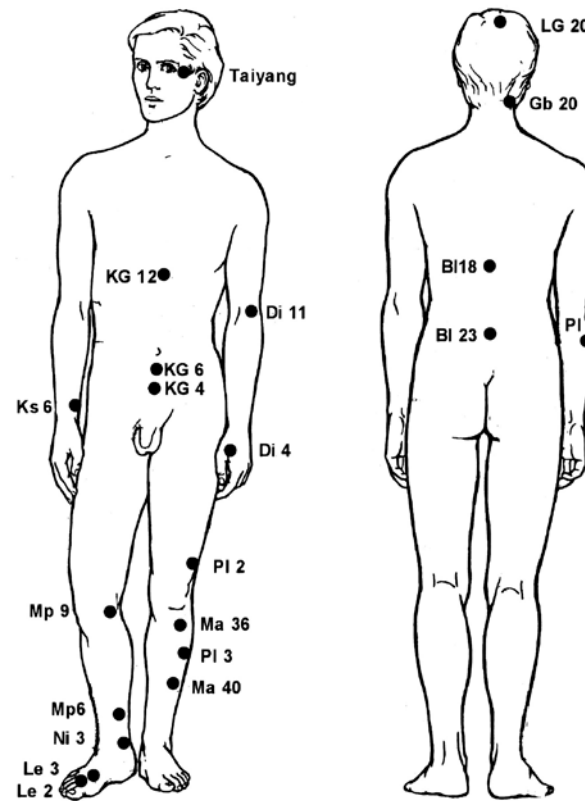
Mean values for outcome measures in sham acupuncture group (1, pre; 2, post) and acupuncture group (3, pre; 4, post).



Funda Güçel et al. Acupunct Med 2012;30:203-207



HYPERTENSION AND ACUPUNCTURE



Randomized Trial of Acupuncture to Lower Blood Pressure, Volume: 115, Issue: 24, Pages: 3121-3129, DOI: (10.1161/CIRCULATIONAHA.106.661140)



DEPRESSION AND ACUPUNCTURE

Acupuncture versus control acupuncture (invasive, non-invasive sham controls)

Acupuncture may be associated with a small reduction in the severity of depression of 1.69 points on the Hamilton Depression Rating Scale (HAM-D) by end of treatment (95% CI -3.33 to -0.05, 14 trials, 841 participants; low-quality evidence). It is unclear whether data show differences between groups in the risk of adverse events (RR 1.63, 95% CI 0.93 to 2.86, five trials, 300 participants; moderate-quality evidence).

Acupuncture versus medication

We found very low-quality evidence suggesting that acupuncture may confer small benefit in reducing the severity of depression by end of treatment (SMD -0.23, 95% CI -0.40 to -0.05, 31 trials, 3127 participants). Studies show substantial variation resulting from use of different classes of medications and different modes of acupuncture stimulation. Very low-quality evidence suggests lower ratings of adverse events following acupuncture compared with medication alone, as measured by the Montgomery-Asberg Depression Rating Scale (MADRS) (mean difference (MD) -4.32, 95% CI -7.41 to -1.23, three trials, 481 participants).

Acupuncture plus medication versus medication alone

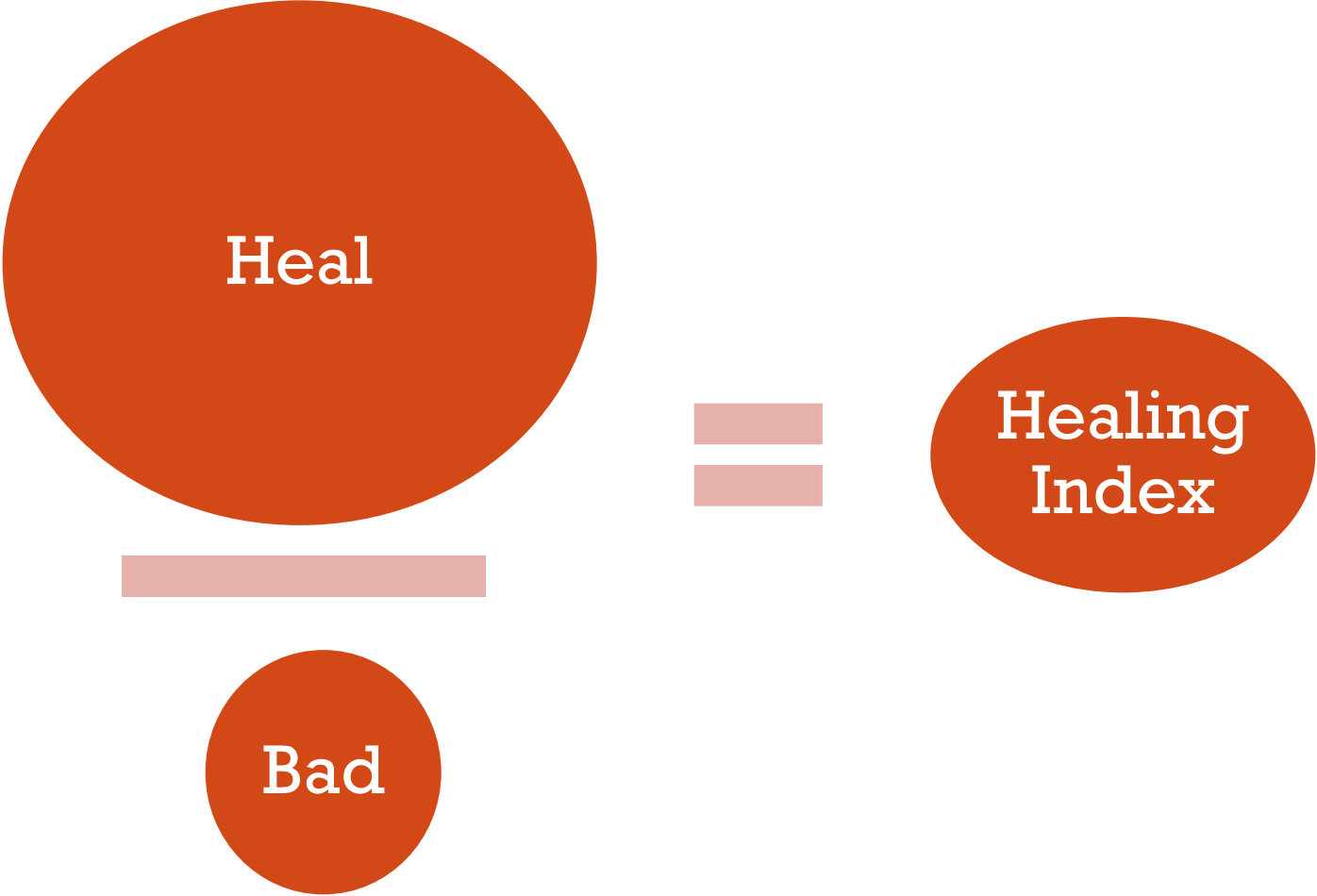
We found very low-quality evidence suggesting that acupuncture is highly beneficial in reducing the severity of depression by end of treatment (SMD -1.15, 95% CI -1.63 to -0.66, 11 trials, 775 participants). Studies show substantial variation resulting from use of different modes of acupuncture stimulation. It is unclear whether differences in adverse events are associated with different modes of acupuncture (SMD -1.32, 95% CI -2.86 to 0.23, three trials, 200 participants; very low-quality evidence).

Acupuncture versus psychological therapy

It is unclear whether data show differences between acupuncture and psychological therapy in the severity of depression by end of treatment (SMD -0.5, 95% CI -1.33 to 0.33, two trials, 497 participants; low-quality evidence). Low-quality evidence suggests no differences between groups in rates of adverse events (RR 0.62, 95% CI 0.29 to 1.33, one trial, 452 participants).

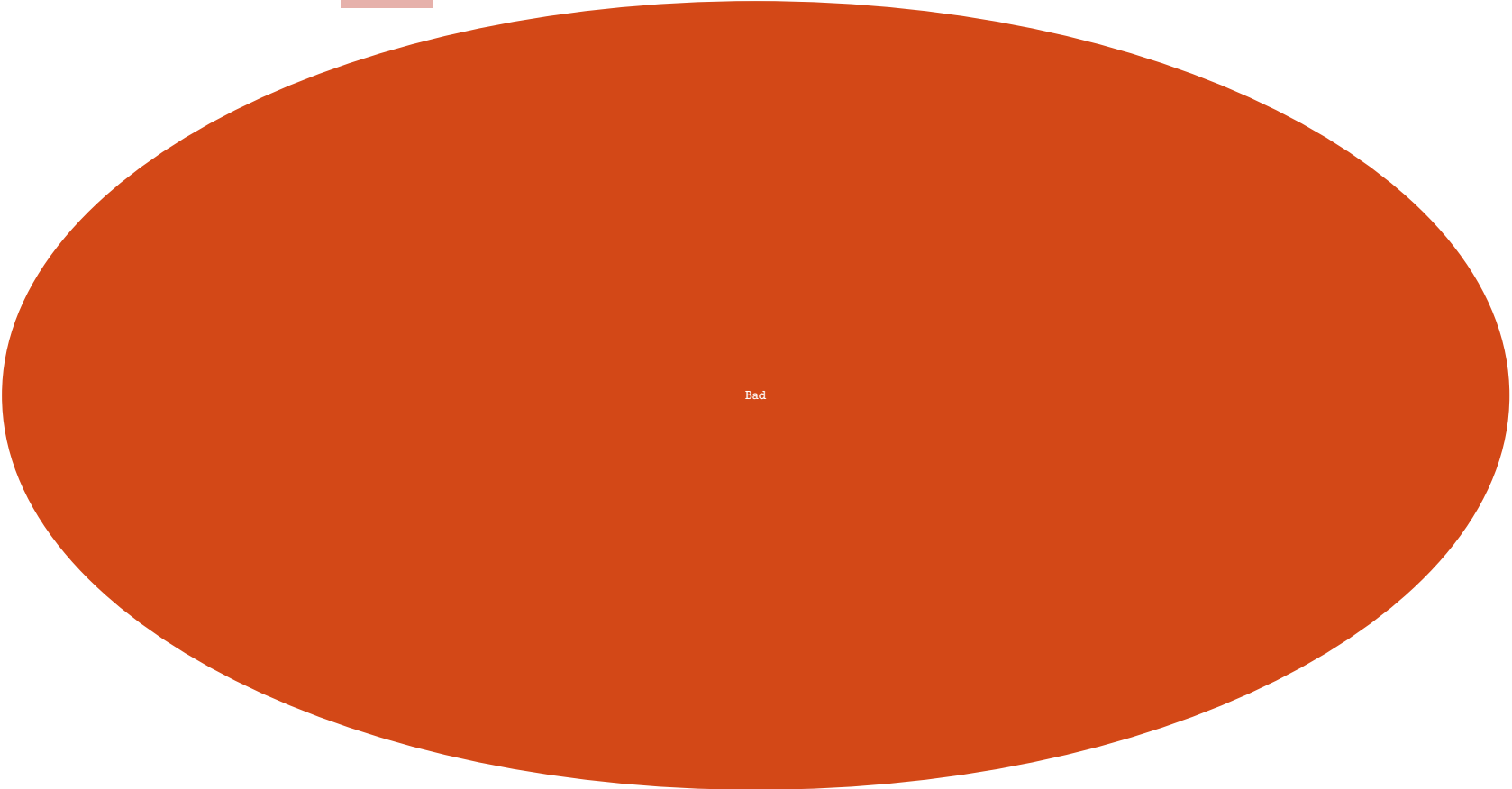


THE HEALING INDEX



OPIOID EPIDEMIC

Heal

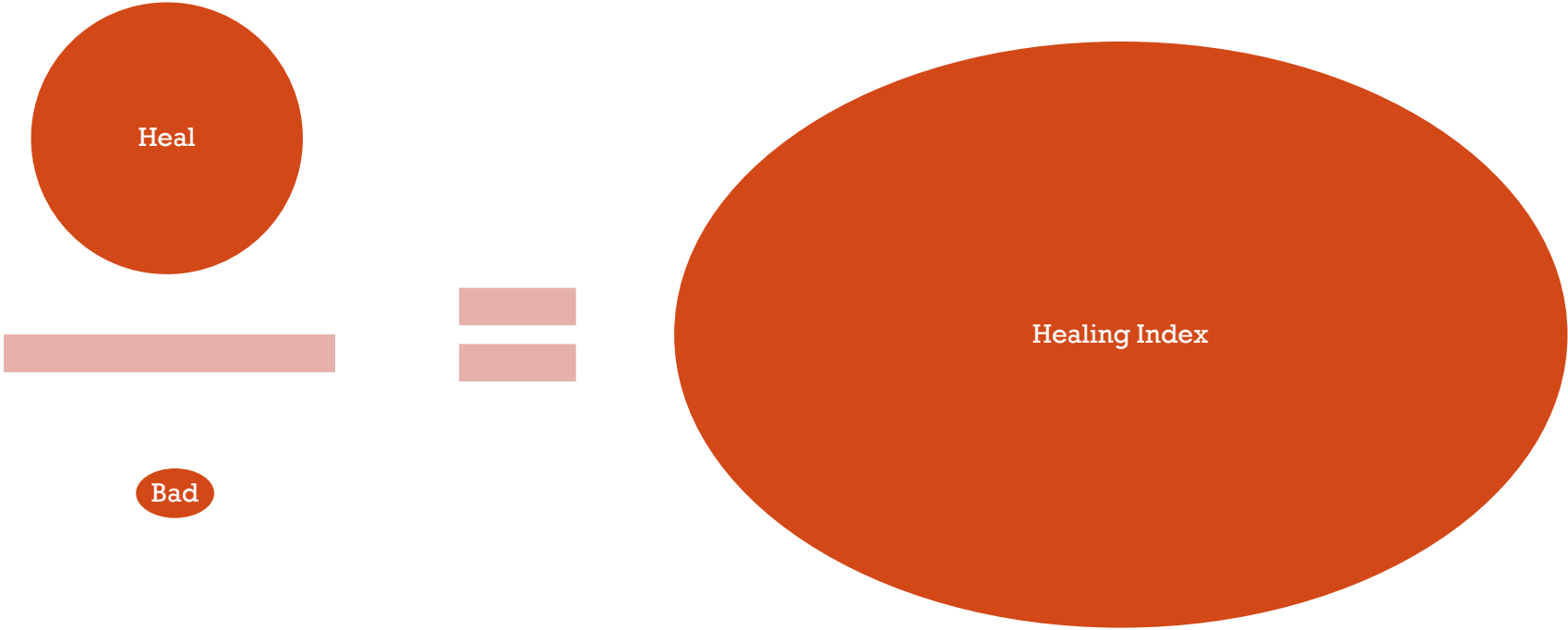


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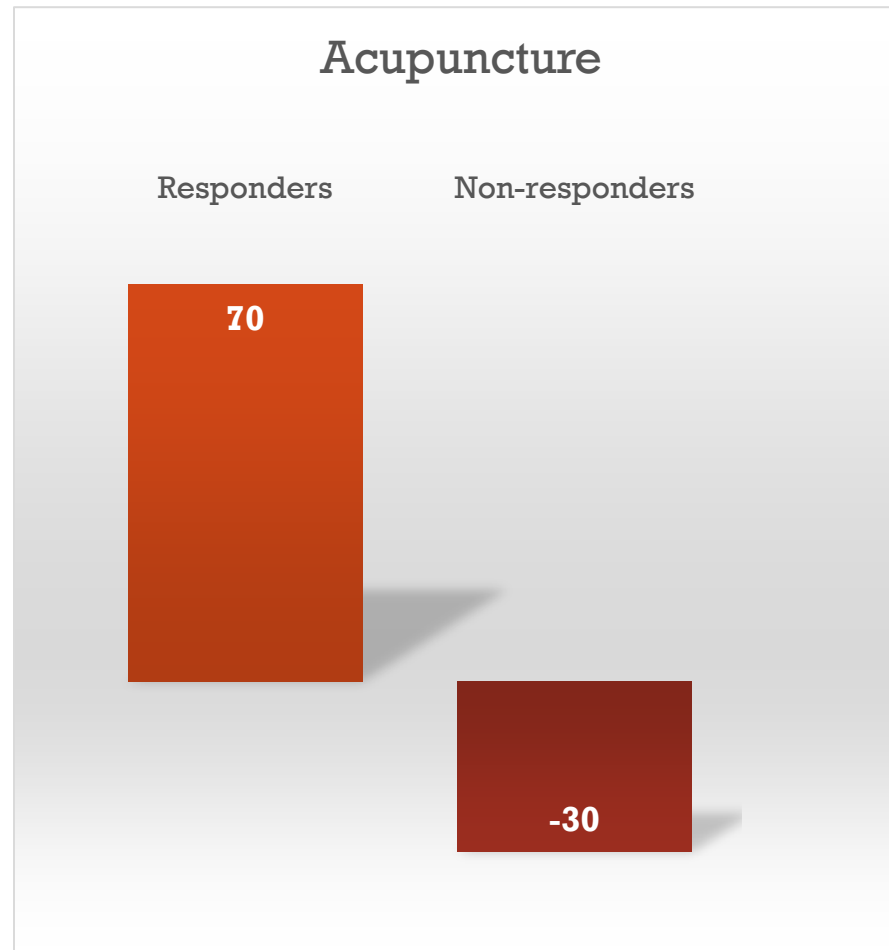
= Healing Index



AVERAGE ACUPUNCTURE



DIFFERING REPORTS OF RESULTS



GURLEY CRITICAL PERSPECTIVE

- Chess match approach is likely more effective than studies
- Studies do not have a wash-out period for non-responders
 - Responder results are likely more impressive
- Non-responders should be encouraged to report non-response
- There is overlap benefit from sham acupuncture vs. verum
 - Belief affects sham results, not verum acupuncture results
- Safety is high
 - Well-trained acupuncturists =
 - Higher safety
 - More likely to effect de chi
- Where there is a mild effect, studies likely will show no effect
- Has a good benefit-risk ratio for problems with no effective treatment
- Need for treatment duration, rest periods, repeats not defined

