East meets West:
Acupuncture and Beyond for All Ages
UCSF Osher Mini Medical School
March 3rd, 2016
By Sanjay Reddy

Goals of Session
- Brief introduction to acupuncture
- Exploring "eastern" concepts of health
- Overview of applications to pain

Brief History of Acupuncture
- Nei Jing written 1-3rd century BCE
- Flourished Ming Dynasty (1368-1644 AD)
- New York Times 1971 → Popularity in USA
- Increasingly used, 3.5 million 2012
Chinese Medicine Concepts
- Rooted in Taoism and Confucianism
- Person inseparable from nature
- Based on concept of harmony
- Disease inseparable from person

Chinese Medicine Components
(and Ayurveda largely)
- Diet
- Physical activity/Exercise
- Meditation
- Herbs
- Acupuncture
- Tui Na
- Gua Sha

Acupuncture: Chinese Medicine View
- Part of larger system of Chinese Medicine
- Use of needles to access energetic meridians throughout the body
- Alterations in energy flow cause disharmony
- Disharmony → Disease
Western Proposed Mechanisms

- Acupuncture points may have unique properties:\(^1,^2:\)
  - Denser innervation, tightly packed connective tissue, different receptor distribution
- Central opiate receptors (varying types) mediate analgesic effect:\(^3\)
  - Spinal and supraspinal neurotransmitter release; Narcan can block effects
- Local inflammatory mediators:\(^4\)


The Controversy

- Western models do not explain/include:
  - How was this system developed?
  - Qi or energy
- People tend to split between believing:
  - All Placebo
  - Panacea

Research History

- Prior to 50 years ago, developed empirically from teacher to apprentice
- Difficult to study, as disease paradigm distinctly different from Western model
- Many conflicting reports of various quality

NIH ‘97 Report of Efficacy

- Myofascial Pain
- Headache
- Dental Pain
- Fibromyalgia
- Tennis Elbow
- Osteoarthritis
- Menstrual Cramps
- Carpal Tunnel
- Lower Back Pain
- Nausea
- Asthma
- Stroke Rehab
- Addictions
WHO 2002

“Because of the side-effects of long-term drug therapy for pain and the risks of dependence, acupuncture analgesia can be regarded as the method of choice for treating many chronically painful conditions.”

– Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials

Safety - Many studies

Sample study of German physicians:
– 140 hours of formal acupuncture training
– Only 19%>350 hours of training
– >95k people with >700k treatments: 6 Major Complications:
  ▪ Exacerbation of Depression
  ▪ Acute HTN Crisis
  ▪ Vasovagal reaction → LOC
  ▪ Asthma attack → HTN and Angina
  ▪ Pneumothorax x2


Table 1. Nonserious Adverse Events of Acupuncture Reported in 97 733 Patients

<table>
<thead>
<tr>
<th>Event</th>
<th>No.</th>
<th>% of Total</th>
<th>90% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needling pain</td>
<td>3202</td>
<td>3.29</td>
<td>3.13-3.43</td>
</tr>
<tr>
<td>Hematomas</td>
<td>3114</td>
<td>3.19</td>
<td>3.04-3.34</td>
</tr>
<tr>
<td>Breeding</td>
<td>1345</td>
<td>1.38</td>
<td>1.26-1.45</td>
</tr>
<tr>
<td>Orthostatic problems</td>
<td>447</td>
<td>0.46</td>
<td>0.40-0.52</td>
</tr>
<tr>
<td>Forgotten needles</td>
<td>242</td>
<td>0.25</td>
<td>0.21-0.29</td>
</tr>
<tr>
<td>Other</td>
<td>674</td>
<td>0.69</td>
<td>0.62-0.76</td>
</tr>
<tr>
<td>Local skin irritation</td>
<td>173</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deterioration of symptoms</td>
<td>118</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Headache</td>
<td>38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fatigue</td>
<td>26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any nonserious adverse event</td>
<td>6806</td>
<td>7.12</td>
<td>6.89-7.32</td>
</tr>
</tbody>
</table>

What to expect

▪ Needles are incredibly small - usually 0.16mm to 0.30mm (30-35g!)

▪ Many people sleep - reports feels like a deep meditation

▪ For some people, it is not enjoyable
**Typical Session**

- Huge focus on history; pulse and tongue
- Minutes to an hour
- 5 to 20 needles, often uses electricity
- 1-3 times per week for 1st 8 weeks
  - Typically spaced out after at increasing intervals

**Contraindications**

- Local infection or tumor
- Severe Neutropenia*
- Pregnancy for certain points
- AICD or Pacemaker for electrical stimulation
- Bleeding dyscrasias and anticoagulation not contraindications as needles are small

**Acupuncture**

- Summary:
  - Safe
  - Inexpensive
  - Few contraindications
  - Poorly understood without the idea of “qi”
  - We don’t understand how it was developed
  - Well tolerated and, often, enjoyable

**And, Beyond!**

- Addressing health and pain holistically:
  - Diet
  - Medications, Herbs, Supplements
  - Exercise
  - Breathing
  - Meditation
  - Sleep
  - Optimism, Wellbeing, Joy
  - Community
  - Spirituality/Connection
PAIN

- Pain can affect every level of being:
  - Physical
  - Mental
  - Emotional
  - Spiritual

- Less effective to treat just one aspect

Quick Pain Image Search

Diet
Brief Herbs/Supplements

- Not that regulated, often junk
- Dangerous used outside of context
- Hard to study as multiple active compounds
- Can work incredibly well and address gaps in our current treatments

Resources to learn more:

- Resources at UCSF:
  - Natural Medicines Comprehensive Database (www.naturaldatabase.com) and Natural Standard (www.naturalstandard.com).
- Third-party testing: www.consumerlab.com
  - 2-3$/month, consumer products
- University of Maryland and Sloan:
  - https://umm.edu/health/medical/altmed/treatment/herbal-medicine
Exercise

- Structured aerobic exercise program for 6 weeks found:
  - Improved aerobic fitness
  - Increased ischemic pain tolerance
- Recent review found massage, yoga and tai chi improved knee pain in elderly


Meditation
Breathing- Experiential

- 4-7-8 Breathing
  - Breath in with abdominal breathing for 4
  - Hold your breathe for 7
  - Breath out through your mouth for 8
  - Ratio is important, time can vary from person to person

Mindfulness Meditation

- Focusing one’s full attention specifically
- Often starts with breath, and returning to breath
- Training of the mind

Meditation Effects

- Modulation of autonomic nervous system
  - Different from relaxation alone
- Enhances Immune System
  - Reduced inflammatory cytokines
  - Increased antibody production with vaccines
- Brain Changes
  - Increased thickness and left prefrontal activity
- Endocrine and hormone changes
  - Reduced Cortisol and increased Melatonin

MBSR

- Structured 8wk program, 28h total
- Secular- based on Buddhist traditions
- Deliberate, sustained, nonjudgmental attention
  - enhance self-awareness
  - change maladaptive thinking
  - increase the capacity for skillful response
  - reduce suffering
MBSR Studies
- Over 200 and counting, particularly effective for:
  - Anxiety
  - Depression
  - Stress
  - Pain
  - “Cancer-related symptoms”
    - Mood disturbance
    - Anxiety
    - Stress
    - Quality of life

MBSR
- Mindfulness Based Stress Reduction
  - Developed by Jon Kabat-Zinn in 1979
    - Full Catastrophe Living
  - 8-week intensive program
  - Secular
  - Well-studied
  - Many programs

MBSR and Pain
- 19 studies of >1200 patients, all show improved:
  - Quality of life
  - Acceptance
  - Pain tolerance
  - Mood
- 2013 review looked at pain itself, showed 10/16 studies with significant reduction.
  

Who’s right for MBSR?
- Motivated to increase self-awareness
  - 28 hours of classroom time over 8 weeks
  - Important part is direct exploration of unpleasant activities as they arise
- Contraindications:
  - Untreated psychosis
  - Mania
  - Intoxication from active substance abuse
How do I know if it’s for me?

- Go to an informational session and find out!
- Next one at Osher Center is:
  - 3/16 Wed 7-930pm
  - 1545 Divisidero Street (at Post)
  - 415.353.7718

Guided Imagery

- Like hypnosis, form of hypnosis
- Done alone or with a practitioner
  - Much better in person, works well alone, too
  - Dr. Rossman is a world expert
  - http://thehealingmind.org/

Guided Imagery and Pain

- 2011 review of 9 studies, 8 with positive results for MSK pain
  - Low methodological quality of studies noted
- 2012 review of 6 good studies, 5/6 supported use for post-op, abd and non-musculoskeletal pain

Free Guided Imagery!

- Kaiser host free links to Belleruth Naparstek’s recordings
- Type Kaiser guided imagery into your search engine
  - Doesn’t work on phones
  - Can download and upload to other devices

Sleep

- Review articles of human and animal studies consistent in bidirectional effect of sleep deprivation
  - Need more studies
  - Many confounders


Optimism


Wellbeing

Figure 7. Eudemonic wellbeing and survival Kaplan-Meier survival curves for the four quartiles of eudemonic wellbeing in the English Longitudinal Study of Ageing. Survival in months from baseline is modelled after adjustment for age, sex, demographic indicators, history of depressive illness and depression symptoms, and baseline health behaviours.
Socialization/Community

- Review on humans and animals studies looking at Oxytocin and pain
- Oxytocin released during warm interpersonal contact
- Oxytocin seems to increase pain tolerance and may impact acute pain.


Spirituality and Connection

- 2015 review stated:
  - “The evidence that we do have about pain and spirituality suggests that spirituality is just as important, if not more important and relevant, than in other fields.”
  - Spiritual wellbeing linked with higher pain tolerance, psychology wellbeing and life satisfaction

Further Reading, Acupuncture:

- Power of Five Elements, by Charles Moss
- The Web That Has No Weaver, by Ted Kaptchuk

Thank You Very Much!

Questions, comments?