Non-Pharmacological Symptom Relief: How Palliative Care Can Help

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USC School of Medicine Clinical Instructor

Innovation and Excellence in Advanced Illness at End of Life
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Objectives

• Identify evidence-based non-pharmacologic interventions for symptom relief
• Know the difference between mindfulness and hypnosis & understand how they can be used for symptom relief
• Recognize the applications for acupuncture in palliative medicine
Mindfulness in Palliative Medicine
Mindfulness and its impact on Psychological well being is becoming well documented—(1970’s to present day).

*Mindfulness is the miracle by which we master and restore ourselves.....it is the miracle which can call back in a flash our dispersed mind and restore it to wholeness so that we can live each minute of life.* (Hanh (1976, p.14))
Kabat-Zinn, 1982- Patients and Chronic Pain

Mindfulness Based Stress Reduction
Mindfulness Based Cognitive Therapy (MBCT)
Dialectal Behavior Therapy (DBT)
Acceptance and Commitment Therapy (ACT)
Mindfulness has also been shown to fight:

- Anxiety
- Depression
- Anger
- Fear

Any emotion/mood that tends to encourage one to avoid, squelch, or not confront undesirable situations/thoughts/emotions.
Innovation and Excellence in Advanced Illness at End of Life
Mindfulness

Positive Impacts of Mindfulness on Psychological Health

Acceptance,
Values clarification, intentional mindfulness,
Increased Spirituality,
And Personal emotional regulation
RESET YOUR MIND
Mindfulness and Your Best Life

Intentional Engagement

What you can do to start your day
How you can be more productive in your workplace
Ending your day your way
Playing with Intention
Self and Space

Gratitude
Being OK with yourself
Forgiving- yourself and others
Give!
References


Hypnosis in Palliative Medicine
• Integrated Cancer Committee Grant
• To provide support for patients and encourage the involvement of family members, friends, and loved ones in the care of the patient with a cancer diagnosis to bridge that gap that may occur and provide another layer of help, support, and comfort to the patient
Guided Imagery

As part of the Hands of Comfort grant, we were able to receive training to become certified hypnotherapists.
No....not that
What is hypnotherapy?

• “People think that when you're hypnotized you're going to be instructed to do things you wouldn't otherwise do, like get up on stage and cluck like a chicken, or reveal deeply hidden secrets. Actually, it just allows people to dissociate from the place they're in and achieve a deep relaxation.”

  - Lorenzo Cohen, Ph.D., professor of Palliative, Rehabilitation and Integrative Medicine and director of the Integrative Medicine Program.

• APA definition: A therapeutic technique in which clinicians make suggestions to individuals who have undergone a procedure designed to relax them and focus their minds.

• EEG cycles
  – 14-20 Hz Beta awareness
  – 14-9 Hz Alpha relaxation
  – 9-4 Hz Theta relaxation
  – <4 Hz Delta sleep
Mindfulness & hypnosis

- Hypnosis uses relaxation to create emotional change
- Mindfulness uses relaxation to facilitate acceptance of your emotions
What about pain?

• Brief interventions of hypnosis & mindfulness have been shown to be effective for acute pain management. (Swain 2014)

• Massage and hypnosis for pain relief in older patients: both decreased pain significantly. Hypnosis resulted in greater decrease of pain. (Ardigo, 2016)

• American College of Physicians clinical practice guidelines recommend mindfulness-based stress reduction, progressive relaxation, CBT as noninvasive treatment options for chronic low back pain. (Qaseem et al 2017)

• Clinical trials have shown that hypnosis is effective for reducing chronic pain. There’s an increase in neurophysiological evidence of hypnosis affecting brain and spinal-cord functioning. (Jensen 2014)
How does it work?

- Hypnotic anesthesia prevents neurological signals from reaching the frontal lobes (Apkarian, 2005; Schulz-Stubner, 2004)
The University of South Carolina School of Medicine-Palmetto Health
Continuing Medical Education Organization
invites you to register for the upcoming

Relaxation-Based Pain Relief™ Certification Workshop

Tuesday, June 26 and Wednesday, June 27
* 12 hours over two days *
Faculty: G. Fredric Mau, DMin, MA, MDiv, NCC, LPCS, DCC
Palmetto Health Baptist Auditorium
1501 Sumter St., Columbia
Hypnosis and other symptoms

- Better sleep
- Increase activity
- Increase resilience
- Decrease anxiety
- Reduce depression
- Improve mood
Other medical applications

• “This is a shift or change in focus of awareness from what's in the center of your attention to what is in the periphery of your awareness. And this can be used in multiple environments within the perioperative setting, including the operating rooms, but also, what we've been using quite a bit is in the off-site kind of domain which includes MRI settings, bone marrow, interventional radiology, just to name a few. So that's primarily where we're using it.”

  –Dr. Ian Lipski Associate Professor in MD Anderson’s Department of Anesthesiology and Perioperative Medicine 2013

Medical hypnosis assists with surgery and medical procedures
Other medical applications

A surgeon, anesthesiologist, mind-body specialist and other members of the health care team work together to perform a breast biopsy on a patient who chose hypnosedation over general anesthesia.

Dr. Dalliah Black is taking the lead in a study of hypnosedation in lieu of general anesthesia for women undergoing breast biopsies.
Other Medical Applications

Guided Relaxation: Exams and Procedures

You may undergo procedures as part of your treatment. Stress and anxiety before an exam or procedure is common. Managing both can improve your experience, comfort after the exam or procedure and overall recovery.

Guided Relaxation

Guided relaxation is a method of deep relaxation. It includes techniques such as deep breathing, guided imagery, meditation, procedural hypnosis and/or supportive counseling. The techniques are done at the time of treatment. This technique has been done for decades all around the world. It allows you to tap into your internal resources. This helps you feel more comfortable and relaxed. Guided relaxation eases anxiety. It also uses the mind to block discomfort and reduce stress. A consultant meets with you during any of the following visits:

- Clinic visit
- Surgery consult
- Before chemotherapy (chemo)
- Chemo clinic
- MRI
- Before radiation
- Before surgery/holding area

He or she talks to you during your exam or procedure. Different techniques are used to keep you in a state of deep relaxation and focused attention. At any time during the exam or procedure, you can ask to stop. This is done at your pace. If you feel discomfort, you can be given medicine to help.

Benefits

Guided relaxation has been studied for decades. Benefits include:

- Less stress and anxiety
- More comfort

Your Thoughts

Before and after the procedure, you are asked to complete a survey about your experience. This information helps improve the process for a better experience. If you are distressed about anything other than your procedure, please talk with someone on your medical team. He or she will connect you with your Social Work Counselor.
Case example

- 76 year old woman with diagnosis of end-stage COPD and severe anxiety. Located in stepdown ICU on nasal O2. Upon arrival, noted increased respirations (~40), decreased O2sats (84-86%), increased heartrate (140-160), and appearing anxious (wide-eyed, rapid breathing, grasping hand).

- Brief mindfulness and guided-imagery (hypnosis process) implemented

- Within 2-3 minutes, respirations decreased to around 16, O2 sats increased to 99%, heartrate dropped to 102, and patient appeared relaxed & fell asleep with suggestion to close eyes comfortably.
References

- Kabat-Zinn, J. What is Mindfulness?. *Greater Good Magazine. UC Berkeley.*
References

Acupuncture in Palliative Medicine
Acupuncture in Palliative Medicine

GOALS
• Definition
• History
• Meridians and points
• Mechanism of action
• Important RCT trials
• Examples of helpful points
Acupuncture Background

- involves the insertion of very thin needles through your skin at strategic points on your body.
- most commonly used to treat pain. Increasingly, it is being used for overall wellness, symptom management and stress management.
- TCM explains acupuncture as a technique for balancing the flow of energy or life force — known as Qi (chee) — believed to flow through pathways (meridians) in your body. By inserting needles into specific points along these meridians, acupuncture practitioners believe that your energy flow will re-balance.
- In contrast, many Western practitioners view the acupuncture points as places to stimulate nerves, muscles and connective tissue. Some believe that this stimulation boosts your body's natural painkillers.
Acupuncture (Background)

- Originated in China.
- Initially: sharpened stones and long sharp bones 6000 BCE
- Documents sealed in 198 BCE within the Ma-Wang-Dui tomb in China - meridians
• The Yellow Emperor’s Classic of Internal Medicine
• 475-221 BC
<table>
<thead>
<tr>
<th>Organ</th>
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</thead>
<tbody>
<tr>
<td>Heart</td>
<td>Small intestine</td>
</tr>
<tr>
<td>Liver</td>
<td>Gall bladder</td>
</tr>
<tr>
<td>Spleen</td>
<td>Stomach</td>
</tr>
<tr>
<td>Lung</td>
<td>Large intestine</td>
</tr>
<tr>
<td>Kidney</td>
<td>Bladder</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Channels</th>
<th>Organ</th>
<th>Pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Yin Meridians of the Hand</td>
<td>Lung, Heart, Pericardium</td>
<td>Chest to Hand</td>
</tr>
<tr>
<td>3 Yang Meridians of the Hand</td>
<td>Large Intestine, Small Intestine, Triple Burner</td>
<td>Hand to Face</td>
</tr>
<tr>
<td>3 Yang Meridians of the Foot</td>
<td>Stomach, Bladder, Gallbladder</td>
<td>Face to Foot</td>
</tr>
<tr>
<td>3 Yin Meridians of the Foot</td>
<td>Spleen, Kidney, Liver</td>
<td>Foot to Chest</td>
</tr>
</tbody>
</table>
• Induction time of 15 to 20 minutes
  – required to develop an analgesic effect and proposed the participation of chemical substances in the analgesic actions
  – **Endogenous opioid peptides** (EOPs) considered major candidates for a role in acupuncture’s action, as electro-acupuncture analgesia (EAA) is antagonized by the opioid receptor antagonist **naloxone**.
  – ↑EOPs in **plasma or cerebrospinal fluid** (CSF) has been observed in humans following EAA
  – a **frequency**-dependent involving EOPs in (EA)-induced analgesia
Scientific research - mechanism of action

- Low-frequency activation of mu- and delta-opioid receptors via the release of enkephalin, beta-endorphin, and endomorphin in supraspinal CNS regions, whereas the effects of high-frequency EAA involve the actions of dynorphin on kappa opioid receptors in the spinal cord.

- Substance P (SP) exists in primary afferents that respond to painful stimuli and appears to transmit pain information into the central nervous system.
  - Immuno fluorescence studies of SP in the spinal cord, and dorsal root ganglion tissues in rats also suggest a possible involvement of the primary SP-positive sensory neurons in the transmission of acupuncture stimulation signals.

- Up-regulation response of 5-hydroxytryptamine (5-HT)/hydroxyindole acetic acid (5-HIAA), and down-regulation of tryptophan content in the frontal cortex. Another mechanism by which acupuncture has been reported in the literature is through the up-regulation of the Glutamate receptor 1 in the amygdala.
Enkephalin

Dynorphin

5-HT

Beta-endorphine

Endomorphin

Substance P

5-HIAA
Figure 1 Schematic illustrations of endogenous opioid-mediated electro-acupuncture analgesia (EAA). (A) EA at 2 Hz or 100 Hz releases different endogenous opioids, which act on different opioid receptors to induce synergistic analgesic effects. (B) Impulses elicited by EA at 2 Hz or 100 Hz project to different brain areas and induce analgesic effects through descending inhibition. Em: endomorphine; Enk: encephalin; β-End: β-endorphin; Dyn: dynorphin; μ: mu-opioid receptors; δ: delta opioid receptor; κ: kappa opioid receptor; PAG: periaqueductal grey matter. Modified from Han 2003 reference [7].
HOW ACUPUNCTURE WORKS

**SIGNAL STIMULUS**
The stimulus from acupuncture needling creates a cascade of signaling throughout the connective tissue (fascia) involving the blood, nerves and immune system.

**ACUPUNCTURE NEEDLE INSERTION**
- Stimulates a local and a centralized reaction.
- The local reaction involves Sensory Neurons in the skin being stimulated.
- The central reaction occurs when the signals reach the brain and spinal cord.

**ACUPUNCTURE POINTS**
Acupuncture points are located in areas with higher concentrations of:
- Superficial nerves
- Blood vessels
- Neuromuscular attachments - where vessels and nerves penetrate muscle fascia

**CENTRAL EFFECT OF NEEDLING**
Both the Central and Peripheral Nervous Systems are affected.

- **NERVOUS SYSTEM**
  - Central Nervous System
  - Brain
  - Spinal Cord
  - HPA Axis (see below)
  - Peripheral Nervous System
    - Voluntary Muscles - movement
    - Nerves
    - Smooth Muscle - lining of organs
    - Stress/Emergency response

**WHAT YOU REALLY NEED TO KNOW**
1. Acupuncture needling promotes homeostasis and self-healing. In short, acupuncture stimulates the body to heal itself.
2. Acupuncture influences:
   A. The Nervous System — muscles, nerves, internal organs
   B. Cardiovascular System — blood flow, distribution of nutrients, hormones
   C. Endocrine System — Hypothalamic-Pituitary-Adrenal axis regulation— major pathway for homeostatic regulation
   D. Immune System — strengthens the immune function of the body
Ah-Shi points and points associated with myofascial pain syndrome.

Experimentally:
Repetitive contractions of the forearm muscle, which induced delayed-onset muscle soreness. A localized tender locus was formed on the palpable band, and pressure applied to the locus induced a specific referred pain pattern similar to that observed in MPS patients.
three parallel arms:

- Real acupuncture employed deep needling to classical acupuncture points with needle manipulation to produce the de-qi sensation. Ten treatments were given over a 6-week period.
- Sham acupuncture involved superficial needling to standardized non-acupuncture points (outside known acupuncture points).
- Standard care used best conventional care based on guidelines using multimodal treatment programs including physiotherapy, exercise, and treatment with non-steroidal anti-inflammatory drugs (NSAIDs).

The response rates at 6 months were 47.6% (real acupuncture), 44.2% (sham acupuncture), and 27.4% (standard care).
Large Acupuncture Mega Trials - Complications

- United Kingdom, Germany, and Japan.
- German survey of over 9000 German physicians providing 760,000 acupuncture treatments
  - six reported cases of adverse events: pneumothorax, exacerbation of depression, acute hypertensive crisis, vasovagal reaction, and asthma attack with hypertension and angina.
- In another large survey of 2.2 million consecutive acupuncture treatments, adverse events:
  - two patients: pneumothorax and lower limb nerve injury.
  - No deaths

*On the other hand, there is a known association between NSAID use and internal bleeding or perforated gastro-duodenal ulcers, and a rigorous survey demonstrated that, on average, 1 in 1200 patients taking NSAIDs for at least two months will die due to gastro-duodenal complications.*
The Thalamic Neuron Theory (TNT)

- postulates that the CNS is involved in all disease processes,
- processes incoming physical and chemical information from the periphery, sends out physiological commands to the periphery in order to maintain homeostasis for the entire body.
- Inherent in its capacity to learn and adapt (i.e. to habituate) is the CNS' ability to learn to be sick (pathological habituation)
- Reversed by dehabituation through manipulation or modulation of the abnormal neural circuits by physical means (physical neuromodulation) like acupuncture, or chemical means (chemoneuromodulation)
- TNT assumes the blue print for embryological development is embodied in the phylogenetically ancient part of the brain. organized in the form of a homunculus.
- curled up embryo with its large head buried close to its pelvic region, with its large feet and hands crossed over to the contralateral sides.
<table>
<thead>
<tr>
<th>First author (date) [Ref]</th>
<th>Indication</th>
<th>Primary acupuncture studies</th>
<th>Clinical endpoints</th>
<th>Authors' conclusion indicating effectiveness?</th>
<th>Agreement with WHO document?</th>
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<tbody>
<tr>
<td>Ter Riet (1989) [58]</td>
<td>Facial pain</td>
<td>2 RCTs</td>
<td>Pain</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Ter Riet (1990) [59]</td>
<td>Addictions</td>
<td>22 CCTs/RCTs</td>
<td>Cessation</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Ernst (1997) [60]</td>
<td>Weight reduction</td>
<td>4 RCTs</td>
<td>Body weight</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Ernst (1997) [61]</td>
<td>Osteoarthritis</td>
<td>10 RCTs, 3 CCTs</td>
<td>Pain</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Lautenschläger (1997) [62]</td>
<td>Inflammatory rheumatoid disease</td>
<td>9 CCTs, 9 cohort studies</td>
<td>Pain</td>
<td>No</td>
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<td>Longworth (1997) [63]</td>
<td>Sciatica</td>
<td>7 CCTs, 31 cohort studies</td>
<td>Pain</td>
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<td>No</td>
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<tr>
<td>Ernst (1998) [64]</td>
<td>Dental pain</td>
<td>16 CCTs</td>
<td>Pain</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Berman (1999) [65]</td>
<td>Fibromyalgia</td>
<td>3 RCTs, 4 cohort studies</td>
<td>Pain</td>
<td>Yes</td>
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<tr>
<td>Ernst (1999) [66]</td>
<td>Temporomandibular joint dysfunction</td>
<td>3 RCTs</td>
<td>Pain, function</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Lee (1999) [67]</td>
<td>Nausea/vomiting</td>
<td>26 RCTs</td>
<td>Symptom control</td>
<td>Yes</td>
<td>Yes</td>
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<td>Ezzo (2001) [73]</td>
<td>Knee osteoarthritis</td>
<td>7 RCTs</td>
<td>Pain</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Linde (2001) [74]</td>
<td>Idiopathic headache</td>
<td>26 RCTs</td>
<td>Pain</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Green (2002) [75]</td>
<td>Lateral elbow pain</td>
<td>4 RCTs</td>
<td>Pain, function</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Casimiro (2002) [76]</td>
<td>Rheumatoid arthritis</td>
<td>2 CCTs</td>
<td>Objective signs and subjective symptoms of rheumatoid arthritis</td>
<td>No</td>
<td>No</td>
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<td>Proctor (2002) [77]</td>
<td>Primary dysmenorrhoea</td>
<td>1 RCT</td>
<td>Pain</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Sok (2003) [78]</td>
<td>Insomnia</td>
<td>11 reports*</td>
<td>Sleep quality, sleep latency</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Martin (2004) [79]</td>
<td>Asthma</td>
<td>12 RCTs</td>
<td>Lung function</td>
<td>No</td>
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<td>Trinh (2004) [80]</td>
<td>Epicondylitis</td>
<td>6 RCTs</td>
<td>Pain</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Lee (2004) [81]</td>
<td>Labour pain</td>
<td>3 RCTs</td>
<td>Pain, medication use</td>
<td>No</td>
<td>No</td>
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<tr>
<td>Lee (2004) [82]</td>
<td>Gastrointestinal endoscopy</td>
<td>6 RCTs</td>
<td>Pain, medication use, tolerance of endoscopy</td>
<td>Yes</td>
<td>NA</td>
</tr>
<tr>
<td>Lee (2005) [83]</td>
<td>Cancer-related pain</td>
<td>2 RCTs, 4 UCTs</td>
<td>Pain</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Manheimer (2005) [84]</td>
<td>Back pain</td>
<td>25 RCTs</td>
<td>Pain</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>van den Berg (2005) [95]</td>
<td>Resolution of breech presentation</td>
<td>5 RCTs</td>
<td>Percentage of resolutions</td>
<td>Yes</td>
<td>Yes</td>
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</tbody>
</table>

CCTs, controlled clinical trials (nonrandomized); RCTs, randomized clinical trials; UCTs, uncontrolled clinical trials. *No restriction on study design; †Ear acupuncture only.
<table>
<thead>
<tr>
<th>First author (year) [Ref]</th>
<th>Condition treated</th>
<th>No. of studies included</th>
<th>Overall conclusion</th>
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</thead>
<tbody>
<tr>
<td>Ter Riet (1989) [104]</td>
<td>Facial pain</td>
<td>2 RCTs</td>
<td>None possible, insufficient data</td>
</tr>
<tr>
<td>Ter Riet (1989) [105]</td>
<td>Tension type headache</td>
<td>7 RCTs, 1 CCT</td>
<td>None possible, insufficient data</td>
</tr>
<tr>
<td>Vernon (1999) [106]</td>
<td>Tension type and cervicogenic headache</td>
<td>8 RCTs</td>
<td>None possible, insufficient data</td>
</tr>
<tr>
<td>Goslin (1999) [107]</td>
<td>Migraine</td>
<td>6 RCTs</td>
<td>None possible, insufficient data</td>
</tr>
<tr>
<td>Melchart (1999) [108]</td>
<td>Idiopathic headache</td>
<td>22 RCTs</td>
<td>None possible, insufficient data, data suggestive of a positive effect</td>
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<tr>
<td>McCrory (2000) [109]</td>
<td>Tension type headache</td>
<td>6 RCTs</td>
<td>None possible, insufficient data, data suggestive of a positive effect</td>
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<td>Linde (2001) [74]</td>
<td>Idiopathic headache</td>
<td>26 RCTs</td>
<td>Cautiously positive</td>
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CCTs, controlled clinical trials (nonrandomized); RCTs, randomized clinical trials.
<table>
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<tr>
<th>First author (date) [Ref]</th>
<th>Control interventions</th>
<th>Primary data</th>
<th>Results</th>
<th>Comment</th>
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<tr>
<td>Ter Riet (1989) [110]</td>
<td>Not clear</td>
<td>16 RCTs, 6 CCTs</td>
<td>Poor methodological quality, no definitive conclusion</td>
<td>Also included neck pain</td>
</tr>
<tr>
<td>Ernst (1998) [111]</td>
<td>Sham, non-acupuncture treatments, no treatment</td>
<td>12 RCTs</td>
<td>Acupuncture better than control interventions but not better than sham acupuncture</td>
<td>Meta-analytical approach</td>
</tr>
<tr>
<td>Van Tulder (1999) [112]</td>
<td>Sham, non-acupuncture treatments, no treatment</td>
<td>11 RCTs</td>
<td>Poor methodological quality, heterogeneity, no clear evidence of effectiveness</td>
<td>simple ‘vote count’</td>
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<tr>
<td>Strauss (1999) [113]</td>
<td>Sham, non-acupuncture treatments, no treatment</td>
<td>4 RCTs</td>
<td>Poor methodological quality, inconclusive overall result</td>
<td>Did not include all available studies</td>
</tr>
<tr>
<td>Smith (2000) [114]</td>
<td>Sham, non-acupuncture treatments, no treatment</td>
<td>13 RCTs</td>
<td>5 studies positive, 8 studies negative; rigorous studies tended to be negative</td>
<td>Also included neck pain</td>
</tr>
<tr>
<td>Henderson (2002) [115]</td>
<td>Sham, non-acupuncture treatments, no treatment</td>
<td>3 case studies, 5 RCTs, 2 crossover CCTs</td>
<td>No conclusive evidence for effectiveness found</td>
<td>Did not include all available studies</td>
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<td>Cherkin (2003) [116]</td>
<td>Sham, non-acupuncture treatments, no treatment</td>
<td>6 new RCTs</td>
<td>Poor methodological quality, inconclusive overall result</td>
<td>Mixed analysis of reviews and primary data</td>
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<td>Yuan (2004) [117]</td>
<td>Sham, non-acupuncture active treatments, no treatment</td>
<td>10 high quality studies</td>
<td>Acupuncture is a useful supplement to other treatments; its effectiveness as a sole intervention is unclear</td>
<td>Best evidence synthesis</td>
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<td>Furlan (2005) [118]</td>
<td>Sham, non-acupuncture active treatments, no treatment</td>
<td>35 RCTs</td>
<td>Evidence of pain relief and functional improvement for acupuncture compared with no treatment or sham (chronic back pain)</td>
<td>Meta-analytical approach</td>
</tr>
<tr>
<td>Manheimer (2005) [84]</td>
<td>Sham, non-acupuncture active treatments, no treatment</td>
<td>33 RCTs</td>
<td>Acupuncture more effective than sham or no treatment for short and long-term pain relief (chronic back pain)</td>
<td>Meta-analytical approach</td>
</tr>
</tbody>
</table>

RCT, randomized clinical trial; CCT, controlled clinical trial (not randomized).
<table>
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<tr>
<th>First author (year) [Ref]</th>
<th>Sample size</th>
<th>Condition/patients treated</th>
<th>Main result</th>
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<tbody>
<tr>
<td>Kleinhenz (1999) [138]</td>
<td>52</td>
<td>Rotator cuff tendinitis</td>
<td>Real acupuncture significantly superior to sham acupuncture in improving symptom score</td>
</tr>
<tr>
<td>Karst (2000) [139]</td>
<td>39</td>
<td>Chronic tension type headache</td>
<td>No significant difference between real and sham acupuncture in improving intensity or frequency of headache</td>
</tr>
<tr>
<td>Karst (2001) [140]</td>
<td>69</td>
<td>Chronic or episodic tension type headache</td>
<td>No significant difference between real and sham acupuncture in improving intensity or frequency of headache</td>
</tr>
<tr>
<td>Karst (2002) [141]</td>
<td>34</td>
<td>Alcohol dependence</td>
<td>No significant difference between real and sham acupuncture with regard to all outcome parameters</td>
</tr>
<tr>
<td>Streiberger (2003) [143]</td>
<td>80</td>
<td>Patients suffering from nausea during chemotherapy</td>
<td>No significant difference between real and sham acupuncture with regard to patients experiencing nausea</td>
</tr>
<tr>
<td>Streiberger (2004) [144]</td>
<td>220</td>
<td>Patients suffering from nausea/vomiting during gynaecological or breast surgery</td>
<td>No significant difference between real and sham acupuncture with regard to patients experiencing nausea</td>
</tr>
<tr>
<td>Fink (2004) [145]</td>
<td>25</td>
<td>Leg spasticity after stroke</td>
<td>No significant difference between real and sham acupuncture in spasticity</td>
</tr>
<tr>
<td>Linde (2004) [146]</td>
<td>28</td>
<td>Prophylaxis of menstrually related migraine</td>
<td>No significant differences between real and sham acupuncture in attack frequency</td>
</tr>
<tr>
<td>Vas (2005) [147]</td>
<td>97</td>
<td>Patients with osteoarthritis/pain</td>
<td>Acupuncture plus diclofenac is more effective than sham plus diclofenac</td>
</tr>
<tr>
<td>Guerra de Hoyos (2004) [148]</td>
<td>130</td>
<td>Patients with shoulder pain</td>
<td>Acupuncture better than sham</td>
</tr>
<tr>
<td>Kong (2005) [149]</td>
<td>11</td>
<td>Healthy subjects submitted to experimental (thermal) pain</td>
<td>Acupuncture but not sham reduced pain</td>
</tr>
<tr>
<td>Downs (2005) [150]</td>
<td>18</td>
<td>Healthy subjects submitted to experimental (thermal) pain</td>
<td>No significant difference between real and sham acupuncture</td>
</tr>
<tr>
<td>Park (2005) [142]</td>
<td>116</td>
<td>Patients recovering from acute stroke</td>
<td>No significant difference between real and sham acupuncture with regard to all outcome parameters</td>
</tr>
</tbody>
</table>

Studies confounded by electrical stimulation are excluded from this list.
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Miller KR¹, Patel JN¹,², Symanowski J³, Edelen CA², Walsh D²

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Melissa J. Romeo PhD, MAOM ¹¾, Barbara Parton RN, LicAc ¹, ², ³, Rachel A. Russo RN, BSN ²,
Lewis S. Hays MD, MPH ², ³, Lisa Conboy MA, MS, ScD ¹, ⁵

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Jacqueline Filshie, Katherine Penn, Sue Ashley, more...
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https://doi.org/10.1177/026921639601000209

Authors Authors and affiliations
Helpful points

- **Large Intestine Channel: LI4, Hegu**
  This point is located on the back side of the hand between the thumb and first finger. The primary use of this point is to relieve pain and treat inflammatory and feverish diseases.

- **Lung Channel: LU7, Lieque**
  This point is located above the wrist on the inside of the arm. It is used to treat several disorders of the upper body, including headache, neck stiffness, cough, asthma, sore throat, facial paralysis and wrist conditions.
Helpful points

• **Gallbladder Channel: GB20, Fengchi**
This point is located at the base of the skull where it joins the neck in back. It is used in the treatment of acute disorders, such as the common cold, influenza, headache, neck pain and fever. In addition, it lowers blood pressure.

• **Governor Channel: GV26**
*Gallbladder Channel: GB20, Fengchi*  
At the junction of the upper and middle third of the philtrum. Someone passes out, stimulator.
off the mark.com

THAT'S ODD... MY NECK SUDDENLY FEELS BETTER...

EARLY ACUPUNCTURE