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Acupuncture: A Clinical Option for Pain Management

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Acupuncture is an ancient medical practice looking to find a place in western clinics. This article details the history, proposed mechanisms of action, and efficacy of acupuncture.

The first concrete description of acupuncture can be found in the *Yellow Emperor's Classic of Internal Medicine* dated around 100BCE.¹ The text is a dialogue between the Yellow Emperor and his minister, as the basis of modern-day acupuncture.¹ Based on Taoist philosophy, the dialogue within the text explains that health is attained by following Tao, and illness is the result of imbalance in yin and yang, influenced by the elements on the body.²

Since the dissemination of this guide, many other texts describing the practice emerged, creating different schools of acupuncture and Eastern medicine, which converged into the *Great Compendium of Acupuncture and Moxibustion*, a book that fully described the 365 acupunctural points on the body capable of modifying Qi energy.¹ *The Great Compendium* propagates the idea that a subtle energy, Qi, is circulated in channels called meridians contained within the body.³ Qi within each of its three planes can be manipulated using various depths of needles at particular points.³ All ailments, including pain, are associated with Qi blockage and imbalances in meridian flow.

Acupuncture largely fell out of favor after the middle ages until the rise of the communist government in China in the 1950s.¹ This period saw a reemergence of acupuncture and associated research. The Chinese government created traditional Chinese medicine as its own branch of study and most research sought to quantify the effects of acupuncture and establish a physiological link for its efficacy.¹ Exploring such a link creates an exciting opportunity for Western physicians to help their patients benefit from alternative therapies.

Run Guo, a DMV area Traditional Chinese medicine practitioner specializing in acupuncture, herbal supplements, cupping, and moxibustion, endorses this ancient view but supports his practice with clinical research. In an interview with Dr. Guo, he states that the points used in acupuncture give off slight electrical charges. He furthers that stimulating these points improves blood circulation, releases pressure and promotes the release of endorphins. Guo's clinic treats a number of conditions in addition to pain syndrome including infertility, allergic reactions, anxiety, and a number of psychological disorders.

Guo explains that each condition has a different physiological response to acupuncture treatment, and therefore different mechanisms of action. His approach to his patients is personalized and deeply detailed, a facet Western medicine often does not focus on. Referring patients to practitioners like Dr. Guo will allow them to experience a more individualized holistic approach to their conditions.

Many Western physicians are hesitant to send patients to alternative clinics given that the physiological link between acupuncture and Western medicine remains elusive. Many times, reproducibility in clinical trials has been near impossible. Researchers are unable to find an anatomical basis for the trigger points an acupuncturist uses for needle insertion.⁴ Though modern-day acupuncturists, like Dr. Guo, do not rely solely on the explanations of meridians and Qi balance, there is no clear data on why certain insertion points are chosen.⁵

For physicians interested in empirical data to guide their referrals to acupuncture, they may look towards the largest clinical trials to assess point specific acupuncture. These are the GERAC and ART trials which evaluated the efficacy of acupuncture on low back pain, knee osteoarthritis, migraine prophylaxis and tension type headaches.⁵ Six of the 8 trials demonstrated that acupuncture is effective and superior compared to conventional pain management.⁵ None of the trials saw a significant difference between true point-oriented acupuncture and superficial acupuncture that served as the sham control.⁵

Trials attempting to correlate acupuncture with better symptomatic relief than sham analgesia were not able to show significant difference.⁶ Generally when a particular acupuncture technique is compared to a sham technique with penetration but not in the prescribed points, the results are the same. However, given that both versions are superior to no intervention at all, acupuncture lends itself as a useful tool for refractory pain and other conditions that are immovable with western methods.^{4,6,7}

The GERAC, among other trials, helped propose a mechanism that involved stimulation and sensitization of c-type nerve fibers whose sensitization explained pain relief.⁵ The study added that patients included in the trial were comfortable, well treated, and had a good relationship with the practitioner, asserting that the mind body connection is improving the pain. Often times, the personalized treatment and attention a patient receives serves as a therapy that Western practices can take advantage of.

A meta-analysis evaluating the trials touches on the difficulty in establishing a true sham control.⁵ It is possible that regardless of the point penetrated, pressure and penetration of an area could produce the same effect. Though

the trials posit the problem of many confounders, the overall conclusion roots itself in the fact that certain patients saw great benefit and alleviation of symptoms. Many patients saw benefits that lasted for 12 months or more.⁵

Other proposed biological processes align with Dr. Guo's physiological explanation of acupuncture's mechanism. These include the stimulation of endogenous opioids, which have been studied in animal models.⁸ Trials have shown increased opioid receptor binding in patients with chronic pain treated with acupuncture.⁸ A decrease in limbic nerve signals has also been observed in chronic pain patients.⁸

Acupuncture research agrees that efficacy of the technique benefits from the ritual involved as well as the cultural context of the practitioner and the patient.⁹ There is evidence that the environment, provider-patient relationship and the individual attention that one receives from the acupuncturist addresses psychological and visceral pain symptoms. Patients are validated in their pain resulting in a kind of psychological analgesia. Effects are even greater depending on the expectation, conditioning and suggestibility of both the clinicians and the patients.⁹

Dr. Wei Peng, another DMV acupuncturist, aligns more with this explanation of acupuncture's undeniable benefit in chronic pain. In interview, she expressed that the individualized attention and open mindset are the key to successful treatments in her practice, which mostly focuses on sports-related injuries and joint pain management. She further states that if patients refuse to believe in the efficacy, they exacerbate stress which contributes to their pain exacerbation.

After decades of research had been collected, The National Institutes of Health (NIH) held a consensus conference in 1998 on acupuncture.¹⁰ Literature from 1970-1997 was reviewed, including 2302 references.¹⁰ Based on the culmination of these works, the NIH concluded that there was enough evidence for acupuncture efficacy for the indications of adult postoperative analgesia, chemotherapy induced nausea and postoperative dental pain.¹⁰ The conference also agreed to approve acupuncture as an adjunctive treatment for addiction, stroke rehabilitation, headache, menstrual cramps, tennis elbow, fibromyalgia, myofascial pain, osteoarthritis, low back pain, carpal tunnel syndrome, and asthma.¹⁰

For clinicians seeking to include acupuncture in their practices as a pain management therapy, it is important to recognize the risk benefit ratio. Acupuncture offers a very attractive safety profile as compared to other main management and antiemetic treatment modalities.⁹ Dr. Matthew Maxwell, an interventional Spine and Sport's medicine physician, with the MedStar National Rehabilitation Network finds useful application of acupuncture in his western practice. In his experience, acupuncture is a very useful adjunctive

treatment musculoskeletal issues, chronic pain issues, myofascial dysfunction, and some neurological issues. He states that several of his colleagues echo this belief and refer their refractory pain patients for acupuncture.

Dr. Peng and Dr. Guo work closely in conjunction with Western specialists and refer back and forth when one practice does not offer an effective solution. Dr. Peng understands that acupuncture is a great alternative to those that prefer less invasive pain management approach. Many of her referrals come from the Arlington pain management center. Around 10-20% of Dr. Guo's Practice are Western medicine referrals.

The risks associated with acupuncture are limited to those that arise with needle use, including infection contraction and bleeding risk.³ Contraindications to acupuncture include bleeding dyscrasias and active infections.³ Cost is also a consideration for patients though many insurance companies- Medicaid, Blue Cross, Aetna, among others- include plans with acupuncture coverage. Without insurance a session can cost anywhere from 40-120\$.¹¹ For chronic pain patient's cost may pose a challenge as multiple sessions are recommended to achieve sufficient analgesia.

Western physicians can consider acupuncture in cases of refractory pain where patients suffer from depersonalization.¹² Providers should set the expectations of treatment outcomes for their patients and target pain control from a holistic point of view that includes acupuncture as a modality in a multifaceted approach for symptom management.¹² It is advised that clinicians describe the practice in generalizable medical terms rather than describing the ancient basis of the practice, keeping in mind the cultural contexts of the patients.⁹ It is to the provider's benefit to take advantage of the potential to improve patients' quality of life.¹³

REFERENCES

1. White A, Ernst E. A brief history of acupuncture. *Rheumatology*. 2004;43(5):662-663. [doi:10.1093/rheumatology/keg005](https://doi.org/10.1093/rheumatology/keg005)
2. Curran J. The Yellow Emperor's Classic of Internal Medicine. *BMJ*. 2008;336(7647):777. [doi:10.1136/bmj.39527.472303.4e](https://doi.org/10.1136/bmj.39527.472303.4e)
3. Article: My Doctor Online. Article | My Doctor Online. <https://mydoctor.kaiserpermanente.org/ncal/article/about-acupuncture-and-faqs-dsa-acupuncture-633289>
4. Vickers AJ, Linde K. Acupuncture for chronic pain. *JAMA*. 2014;311(9):955-956. [doi:10.1001/jama.2013.285478](https://doi.org/10.1001/jama.2013.285478)
5. Gong CZ, Liu W. Two Evidence-Based Acupuncture Models. *Chin J Integr Med*. 2020;26(1):3-7. [doi:10.1007/s11655-019-3177-5](https://doi.org/10.1007/s11655-019-3177-5)
6. Puljak L, Puljak L. Can acupuncture help adults suffering from neuropathic pain? – A Cochrane review summary with commentary. *NeuroRehabilitation*. 2019;44(2):315-317. [doi:10.3233/NRE-189004](https://doi.org/10.3233/NRE-189004)
7. Kargozar R, Salari R, Jarahi L, et al. Urtica dioica in comparison with placebo and acupuncture: A new possibility for menopausal hot flashes: A randomized clinical trial. *Complementary Therapies in Medicine*. 2019;44:166-173. [doi:10.1016/j.ctim.2019.04.003](https://doi.org/10.1016/j.ctim.2019.04.003)
8. Mao JJ, Davis RT, Coeytaux R, et al. Acupuncture for Chronic Low Back Pain: Recommendations to Medicare/Medicaid from the Society for Acupuncture Research. *Journal of Alternative and Complementary Medicine*. 2019;25(4):367-369. [doi:10.1089/acm.2019.29067.jjm](https://doi.org/10.1089/acm.2019.29067.jjm)
9. Karst M, Li C. Acupuncture—A Question of Culture. *JAMA Netw Open*. 2019;2(12):e1916929. [doi:10.1001/jamanetworkopen.2019.16929](https://doi.org/10.1001/jamanetworkopen.2019.16929)
10. NIH Consensus Conference. Acupuncture. *JAMA*. 1998;280(17):1518-1524. [doi:10.1001/jama.280.17.1518](https://doi.org/10.1001/jama.280.17.1518)
11. Fan AY, Wang DD, Ouyang H, et al. Acupuncture price in forty-one metropolitan regions in the United States: An out-of-pocket cost analysis based on OkCoplay.com. *J Integr Med*. 2019;17(5):315-320. [doi:10.1016/j.joim.2019.06.003](https://doi.org/10.1016/j.joim.2019.06.003)
12. Ledford CJW, Crawford PF. Integrating medical acupuncture into family medicine practice. *American Family Physician*. 2019;100(2):76-78.
13. BMJ. Should doctors recommend acupuncture for pain? *ScienceDaily*. <https://www.sciencedaily.com/releases/2018/03/180307230411.htm>. Published March 7, 2018.