

Evidence for acupuncture

Abstract

Acupuncture is becoming increasingly popular as an alternative option for patients. Acupuncturists are also being added to medical care teams. It is also important for pharmacists to know the basic scopes or practice for members of their teams and to accurately counsel patients.

Keywords: acupuncture, ancient therapy, internal medicine, anthropology

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Leah Sheffer

University of Florida, USA

Correspondence: Leah Sheffer, University of Florida, 5600 N River Road, Suite 800, Rosemont, IL 60018, USA, Tel 3097244600, Email leahsheffer@gmail.com

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Abbreviations: LIV, liver; GB, gallbladder; HT, heart; SI, small intestine; PC, pericardium; TH, triple heater; SP, spleen; ST, stomach; LU, lung; LI, large intestine; KID, kidney; BL, bladder; GV, governing vessel; CNT, clean needle technique; NCCAOM, national certification commission for acupuncture and oriental medicine

Acupuncture

Acupuncture is an ancient therapy practiced for over 4,000 years to treat a variety of diseases in both humans and animals. Acupuncture was first introduced in medical writings around 200 BC in The Yellow Emperor's Classic of Internal Medicine. Anthropologists have uncovered crude needles made of stone that are 5,000 years old. Primitive acupuncture needles have also been made out of bamboo, fish bones, bronze, gold, and silver. In the 17th century, Jesuit missionaries introduced acupuncture to Europe after trips to China. Although Acupuncture was practiced in ancient Egypt, Arabia, Brazil, South Africa, and by Eskimos for thousands of years. Acupuncture gained attention in the United States in 1971, following an article in the New York Times by reporter James Reston on his own personal experience. Although historically, acupuncture has been a part of medicine, it has only recently gained popularity in the United States. The 2007 National Health Interview Survey estimated that 3.1 million US adults and 150,000 children had acupuncture within the previous year. This is an increase of nearly one million people from 2002. The US military has also recently begun promoting acupuncture as a treatment for pain and psychological diseases. Although acupuncture is recommended and commonly used, many clinicians are not well informed enough to discuss the techniques or evidence with their patients.¹

Acupuncture is the stimulation of a specific point, known as an "acupoint," in the body, which causes a physiological change such as the release of endogenous opioids, immune system stimulation, or blood pressure regulation. There are 361 acupoints located along 14 separate meridians through the human body. Meridians are energy channels or paths that connect acupoints.² The 14 meridians include the liver (LIV), gallbladder (GB), heart (HT), small intestine (SI), pericardium (PC), triple heater (TH), spleen (SP), stomach (ST), lung (LU), large intestine (LI), kidney (KID), bladder (BL), governing vessel (GV), and conception vessel (CV). Each acupoint is named according to its meridian and corresponding number (Figure 1).

Acupuncture focuses around the life force known as "qi," which translates to "vital energy." According to traditional Chinese medicine,

qi is believed to be the inner energy within people that sustains them and connects vital organs like a river system. An imbalance or interruption of qi along the meridians causes illness and disease. Qi is influenced by physical and emotional trauma, stress, diet, exercise, seasonal changes, and overexertion. The body usually compensates to correct changes in qi. However, when the body is unable to maintain homeostasis and a healthy qi, illness, pain, or disease may occur.

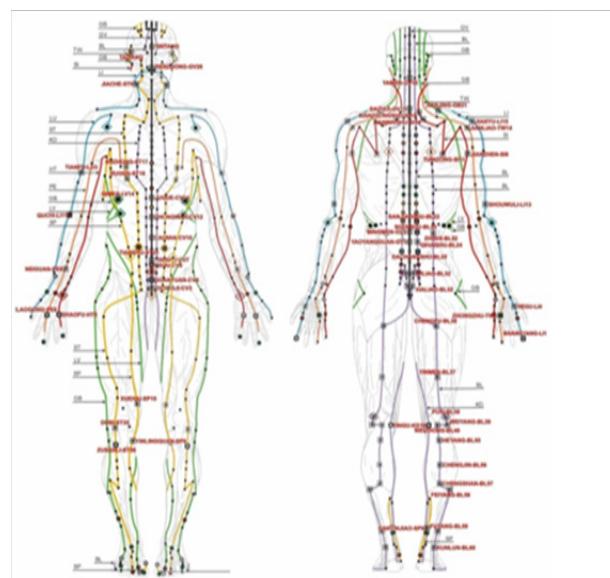


Figure 1 Human body Meridians.

Acupuncturists evaluate the qi by examining the tongue and checking the pulse. There are 12 pulse positions on each wrist that are palpated. Each position corresponds to a specific meridian. The acupuncturist is trained to evaluate the quality of the pulses. The tongue is also examined. The tongue is highly vascular and communicates with the nervous system and circulatory system. Saliva is constantly secreted on the tongue, containing water, electrolytes, mucus, and enzymes.^{3,4} These are vital nutrients that indicate how nourished the body is. The tongue is highly sensitive and its appearance reflects even minor physiological changes. The size of the tongue increases and lacerations may occur with edema or inflammation. The color of the tongue is also provides information. A healthy tongue is pinkish in color and shines. A pale tongue indicated anemia, redness indicates hyperactivity of a body system, and purple is associated with pain,

congestion, and blockages. The “shiny” coating of the tongue reflects saliva quality. Imbalances in the digestive system result in a thickened saliva coating. Thick coating that is white in color is a sign of decreased immune function or fungus infection, specifically Candida. Yellow coating is seen with inflammation. The tongue is also divided into regions. Each region represents the health of a specific meridian and can be used as a treatment map (Figure 2) (Figure 3).

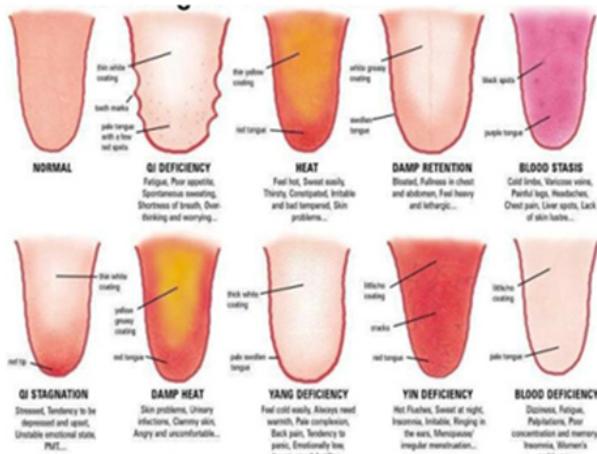


Figure 2 Tongue region represents the health of a specific meridian and can be used as a treatment map.



Figure 3 Representation of human body parts.

Various techniques are used to stimulate acupoints, such as, dry-needle, moxibustion, electro-acupuncture, aqua-acupuncture, hemo-acupuncture, acu-pressure and pneumo-acupuncture. Dry-needle acupuncture is the insertion of a sterile needle into an acupoint. It is the most common technique used in animals. The needles are inserted subcutaneously 1/8" to 1 1/2". Moxibustion stimulates acupoints through the use of heat. Crushed leaves of the *Artemisia argyi* plants are rolled into a cigar, which is burned and placed near the skin to warm it without contact. Electro-acupuncture involves electrical leads attached to dry-needles connected to an electro-acupuncture machine. The electro-acupuncture machine is used to control the frequency and amplitude applied to each point. Aqua-acupuncture induces stimulation

through the use of an injected liquid into an acupoint. Commonly injected liquids include sterile water, saline, or vitamin B12. A few drops of blood are drawn at each acupoint in hemo-acupuncture. This is thought to release heat from the body. Acupressure involves 5-10 minutes of constant pressure for stimulation from one's fingers. Pneumo-acupuncture is the injection of fresh air into an acupoint. The air pressure within the subcutaneous tissue causes stimulation. Once the needles are inserted, the sensations felt are varied and described as numbness, heaviness, tingling, dull ache, or a sensation of energy moving known as the “qi sensation” (Figure 4).



Figure 4 Qi sensation.

Non-physician, licensed acupuncturists most commonly perform acupuncture in the United States. Each state has its own training and licensing requirements. In Illinois, a MD, DO, or chiropractor is able to perform “dry needling,” but not all forms of acupuncture with a license. In order to be certified in acupuncture, Illinois requires graduation from a school recognized by the Accreditation Commission for Acupuncture and Oriental Medicine (ACAOM), passing of the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM), and proof of successful completion of the Clean Needle Technique (CNT). In Michigan, an “acupuncturist” does not need to complete any formal training. Each school also has its own admission criteria. The Pacific College of Oriental Medicine is the top ranked acupuncture school in the United States. In order to apply for a doctorate of acupuncture, a 4 year master's degree and practicing license are required. There are acupuncturists trained to treat humans and animals.^{5,6}

The evidence available in determining the effectiveness of acupuncture is relatively recent. In 2003, the World Health Organization conducted a meta-analysis of the controlled clinical trials available and determined that acupuncture was effective in 28 diseases and conditions. Their findings are listed in the table below (Table 1). Acupuncture is gaining in popularity in the United States. Pharmacists are responsible for public awareness on alternative treatments or therapies. Counseling points for patients inquiring about acupuncture may include whether there is evidence in support of acupuncture for their specific disease. The safety of acupuncture may also be discussed.⁷ Patients may need assistance in knowing what to look for in finding a qualified acupuncturist or how to find out if their insurance covers it. Patients may also question pharmacists on what to expect. Some neurology and psychology medical groups are adding acupuncturists as members of their Interprofessional teams. The AMA/ASA International Stroke conference now dedicates a session series to acupuncture and alternative medicine. It is also important for pharmacists to know the basic scopes or practice for members of their teams.

Table 1 Evidence-based indications for acupuncture therapy

Indication	Example	Comments
Common		
Neurologic	Migraine Tension Headache	Evidence suggests acupuncture can be helpful for the management of migraine and tension-type headaches.
Musculoskeletal	Osteoarthritis (knee) Fibromyalgia Backpain Neckpain Postoperative pain	Evidence suggests acupuncture can be helpful for the management of osteoarthritis of the knee, fibromyalgia, and back, neck, and postoperative pain.
Gastrointestinal	Nausea and vomiting Constipation Postoperative ileus IBS	Evidence suggests acupuncture can be helpful for the management of chemo-induced nausea and postoperative nausea and vomiting. Inconsistent evidence suggests efficacy of acupuncture for the management of constipation, postoperative ileus, and IBS. Further research is needed.
Gynecologic/Reproductive	Hotflashes Infertility PMS	Inconsistent evidence suggests efficacy of acupuncture for the management of hot flashes, infertility, and PMS. Further research is needed.
Psychiatric/Mood	Stress Anxiety Depression	Inconsistent evidence suggests efficacy of acupuncture for the management of stress, anxiety, and depression. Further research is needed.
Addiction	Nicotine Dependence Alcohol Dependence	Inconsistent evidence is available to make recommendations on the value of acupuncture in the treatment of nicotine and alcohol dependence. Further research is needed.
Endocrine	Obesity	Inconsistent evidence is available to make recommendations on the value of acupuncture in the treatment of obesity. Further research is needed.
Less common		
ENT	Allergic Rhinitis Sinusitis	Inconsistent evidence is available to make recommendations on the value of acupuncture in the treatment of allergic rhinitis and sinusitis. Further research is needed.
Respiratory	Asthma COPD	Inconsistent evidence is available to make recommendations on the value of acupuncture in the treatment of asthma and COPD. Further research is needed.
Cardiovascular	Hypertension Angina	Inconsistent evidence is available to make recommendations on the value of acupuncture in the treatment of hypertension and angina. Further research is needed.
Sleep	Insomnia Enuresis	Inconsistent evidence is available to make recommendations on the value of acupuncture in the treatment of insomnia and enuresis. Further research is needed.

Acknowledgements

None.

Conflict of interest

Author declares that there is no conflict of interest.

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