

## **Position Paper on Acupuncture (NCAHF)**

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### **Summary**

Acupuncture involves the stimulation of certain points on or near the skin by the insertion of needles or by other methods. It has been used as a treatment in Asia for several thousand years but has not been proven effective by modern standards.

Acupuncture is being promoted as both an "alternative" treatment and an adjunct to standard treatment. In China, it was banned in 1929 but underwent resurgence in the 1960s during the Cultural Revolution. In the United States, it is used mainly for pain relief. Some states permit only licensed physicians to perform acupuncture, while others license lay persons as well. While acupuncture organizations are trying to standardize training, researchers are still attempting to determine whether acupuncture is effective.

NCAHF believes:

1. Acupuncture is an unproven modality of treatment;
2. Its theory and practice are based on primitive and fanciful concepts of health and disease that bear no relationship to present scientific knowledge;
3. Research during the past twenty years has failed to demonstrate that acupuncture is effective against any disease;
4. Perceived effects of acupuncture are probably due to a combination of expectation, suggestion, counter-irritation, operant conditioning, and other psychological mechanisms;
5. The use of acupuncture should be restricted to appropriate research settings;
6. Insurance companies should not be required by law to cover acupuncture treatment; and
7. Licensure of lay acupuncturists should be phased out.

### **Theory and Practices**

Acupuncture is based on ancient Chinese medical philosophy, which views illness quite differently than does contemporary science [1]. In ancient China, diseases were not systematically described or classified [2]. Internal organs, which were felt to be intermediaries between the body and nature, were assigned qualities representing emotional states, colors, and seasons. Some organs, such as the "triple warmer,"

were imaginary. There were no concepts of modern physiology, biochemistry, nutrition or mechanisms of healing. There was no knowledge of the existence of cells, the circulation of the blood, the function of nerves, or the existence of hormones. Dissection of the human body was not done, so that even knowledge of anatomy was incomplete.

### **Diagnosis**

Traditional Chinese diagnosis does not correlate with modern scientific concepts. An ill person was considered out of balance with nature and its two opposing forces, yin and yang. Yin represented the feminine, passive, or accepting qualities, and yang the masculine, aggressive, or forceful ones. Diseases were not described or named. Diagnoses were made by examining the pulse (of which there were supposedly six variations) and the tongue, which was said to vary in appearance with certain disease states. Today we know that there is only one pulse, which corresponds to the pumping action of the heart, and that the appearance of the tongue is seldom a clue to the diagnosis of disease in other parts of the body.

Traditional Chinese treatments were directed at reestablishing "balance" and "harmony," which supposedly occur as symptoms improve. Since there was no formal study of diseases or description of their natural history, the ancient Chinese could rarely determine how an illness actually improved. Treatments were chosen by trial and error, and perpetuated by personal experience. Since there were no scientific criteria for success or failure, the judgment that "healing" had taken place was based on the word of the therapist or the patient. The natural course of the disease usually took place unaltered by treatment.

Acupuncture points were assigned to "meridians" on the surface of the body. These supposedly represent channels through which flows the life force, "Ch'i" or "Qi.." Fourteen channels were said to permit maximal influence on the flow of Ch'i inside the body. Insertion of needles at the designated points was said to increase or decrease the flow of Ch'i to achieve a more normal and harmonious state. Originally there were 365 acupuncture points, corresponding to the days of the year, but the number identified by proponents during the past 2,000 years increased gradually to over 2,000. [3]

The life force, Ch'i, has no basis in human physiology. The meridians are imaginary; their locations do not relate to internal organs, and therefore do not relate to human anatomy. Acupuncture points are also imaginary. (Various acupuncture charts give different locations for the points.) These fanciful concepts continue to form the basis of modern acupuncture therapy even though extremely sophisticated methods are used to measure its reputed biochemical effects. Although scientific methods may be applied to biochemical studies, many published reports are based solely and uncritically on clinical anecdotes and tradition [4].

Acupuncture is not difficult to perform. It involves a variety of procedures performed at "acupuncture points" on the skin. The modalities include:

- Insertion of needles. Fine stainless steel needles are inserted to varying depths with an in-and-out twirling motion until there is a local feeling of numbness (a temporary reaction to injury). They are left in place for about twenty minutes, then removed.
- Burning of vegetable fibers (moxibustion). [5]
- Suction by cups containing heated air (cupping)
- Injected solutions
- Low-voltage current applied to needles (electroacupuncture), a relatively recent development

Other variations and offshoots include:

- Trigger point therapy. Some proponents claim that acupuncture points coincide with "trigger points" - areas at which the injections of a local anesthetic can relieve regional pain. However, trigger points are not anatomically demonstrable and vary from individual to individual. Any effects from acupuncture are likely to be due to nonspecific mechanisms rather than location of the "points".
- Auriculotherapy. This is based on the notion that the body and organs are represented on the ear [6].
- Needles are placed in the imaginary points representing the diseased organs. There is no scientific evidence that these points exist or that auriculotherapy has any therapeutic value [7].
- Staplepuncture. Staples are placed at acupuncture points on the ear, typically to aid smoking cessation or drug withdrawal.
- Acupressure, firm digital pressure on trigger points or acupuncture points.
- "Touch for Health," developed by a chiropractor using acupressure points and an unreliable muscle-testing method ("applied kinesiology"). The therapist claims to diagnose nutritional and glandular "deficiencies" that are then "corrected" by manipulation or nutrition supplements.

### **Proposed Mechanisms of Action**

The following mechanisms have been proposed to explain acupuncture's presumed action on pain:

- Release of endorphins (narcotic-like substances produced by the body). Naloxone, which reverses the effects of administered opiates, has been

reported to reduce the analgesia produced by acupuncture. However, some studies show no reversal. Even if endorphin release were a real mechanism for acupuncture action, there are simpler and non invasive ways to cause endorphin release.

- The "gate theory." This suggests that if pain fibers carry impulses from an acupuncture site, impulses from a painful body organ will be unable to reach the brain. However, there is no anatomical or physiological basis for this explanation.
- Diversion. Attention can be diverted from a symptom by stimulating or irritating another part of the body.
- Psychological mechanisms. These include suggestion, operant conditioning and other psychological mechanisms, any of which may be involved in the placebo effect.

### **Current Use in China**

Acupuncture anesthesia has been observed by Western anesthesiologists and other medical scientists. American interest was triggered in 1972 by a rumor that New York Times reporter James Reston had received acupuncture anesthesia for an appendectomy while visiting China. Actually, he had had standard anesthesia and received acupuncture for postoperative cramps.

Despite popular claims, acupuncture anesthesia is not used for emergency surgery. It is not used routinely, but only on the 10% to 15% of people who are suggestible and perhaps easily hypnotizable. It is seldom used for abdominal or chest surgery, in which muscle relaxation is necessary (general anesthesia as done in the West is used.) Moreover, when acupuncture is used for surgery, the patient is usually medicated with narcotics and other standard drugs [8-10].

For other medical conditions, acupuncture and herbalism are regarded as elective procedures. Of the forty-six major medical journals published by the Chinese Medical Association, none is devoted to acupuncture, herbalism, and their variants. The great majority of papers are about scientific, rather than traditional Chinese methods. Few articles concern the integration of acupuncture with modern treatments. Reports of acupuncture successes are often not accompanied by reliable measurements.

### **Scientific Status**

The World Health Organization has listed forty conditions for which claims of effectiveness have been made. They include acute and chronic pain, rheumatoid and osteoarthritis, muscle and nerve "difficulties," depression, smoking, eating disorders, drug "behavior problems," migraine, acne, ulcers, cancer, and constipation. Some chiropractors and psychologists have made unsubstantiated claims to improve dyslexia and learning disorders by acupressure. However, scientific evidence supporting these claims is either inadequate or nonexistent.

### **Experimental Difficulties**

The following should be considered when evaluating an acupuncture research paper:

- Symptom relief is difficult to assess because there is no objective standard of measurement.
- Double-blind studies comparing the insertion of needles at acupuncture points and at other points ("sham acupuncture") are difficult to design. If an experienced acupuncturist locates the points, the practitioner's expectations may be transmitted to the patient. If an inexperienced person inserts the points, misplaced needles may undermine the results. Moreover, practitioners may differ about the location of the points, and so many points have been postulated that it may be difficult to find a patch of skin that has not been labeled an "acupuncture point."
- Chronic pain is often cyclic, with periods of relief. Since people often request help when their pain is most severe, spontaneous improvement may occur independent of the treatment [11].
- Most acute (recent onset) pain improves with time and no intervention. Thus, people may report improvement of symptoms from any intervention, even if the method has no effect.
- There is general agreement that 30% to 35% of subjects' pain improves from suggestion or placebo effect alone. Thus, measuring a small difference between placebo and acupuncture requires a large number of subjects (several hundred in each group) to show as little difference as 25%.
- People who volunteer for acupuncture may have a conscious or unconscious bias toward the procedure and thus may be more prone to suggestion.
- Proponents of a method tend to report trials showing positive effects, and not to report trials showing no effect or negative effects.

Despite these difficulties, well controlled trials can be carried out by using: 1) unbiased subjects, 2) random assignment of subjects into treatment and control groups, 3) blinding of both therapists and subjects, 4) blinded evaluations by separate observers, 5) a reliable diary or reporting system if symptom relief is the end point, 6)

adequate period of follow-up past the time of treatment, 7) enough subjects to test the significance of any difference found. Few studies have satisfied these requirements.

## **Scientific Reviews**

Richardson and Vincent analyzed 28 studies of effect of acupuncture on pain, all published between 1973 and 1986 in English language peer-reviewed journals. Fifteen showed no difference in effectiveness between acupuncture and control groups. Thirteen showed some effectiveness for acupuncture over control groups, but not all controls were the same. (Some were compared to sham acupuncture, some to medical therapy, etc.) Overall, the differences were small [12-13].

The NCAHF Task Force on Acupuncture evaluated the above studies, as well as more recent ones, and found that reported benefits varied inversely with quality of the experimental design. The greater the benefit claimed, the worse the experimental design. Most studies that showed positive effects used too few subjects to be statistically significant. The best designed experiments - those with the highest number of controls on variables - found no difference between acupuncture and control groups.

In 1989, three Dutch epidemiologists reported similar conclusions about 91 separate clinical trials of acupuncture for various disorders. They also found that the stricter the controls, the smaller the difference between acupuncture and control groups [14]. Acupuncture is being used in drug and alcohol rehabilitation programs. Because there are serious flaws in the way studies on rehabilitation have been performed, the results cannot be considered valid.

A successful medical procedure should be consistently effective in a large majority of trials, and be repeatable in the hands of most therapists. Acupuncture does not satisfy these basic criteria.

The American Medical Association's Council on Scientific Affairs stated in a 1981 report that since acupuncture is an experimental procedure, it should be performed only in research settings by licensed physicians or others under their direct supervision. The report urged state medical societies to seek appropriate laws to restrict the performance of acupuncture to research settings [15].

## **Acupuncture Training**

Acupuncture is not part of the curriculum at most American medical schools. Nevertheless, proponents say that several thousand physicians in the U.S. and Canada use it in their practices. The American Academy of Medical Acupuncture of

Berkeley, California, sponsors courses for physicians given under the auspices of medical schools, including UCLA, Jefferson Medical College, and Temple University. The University of Hawaii also sponsors a course. Tuition is as much as \$3,600 for a one-week course.

Lay persons who perform acupuncture may use the following degrees and/or titles:

- **Certified Acupuncturist (C.A.):** This title can be granted to lay persons by a state licensing board after qualifying examination.
- **Master Acupuncturist (M.A.):** A title granted to some licensed acupuncturists in certain states.
- **Diplomate of Acupuncture (Dpl.Ac.):** Certified by an organization called the National Commission for the Certification of Acupuncturists (NCCA).
- **Oriental Medical Doctor (O.M.D. or M.O.D):** This is not a recognized degree.
- **Doctor of Philosophy (Ph.D):** No American school granting this degree for acupuncture is accredited. One such school is the Center for Chinese Medicine, Monterey Park, California. Its 250-hour course lasts about 30 days and costs \$3,500.

### Hazards

The frequency of complications of acupuncture needling is not known, since no survey has been done. Nevertheless, serious complications occur even in experienced hands and are reported in medical journals. These include fainting, local hematoma (bleeding from punctured blood vessel), pneumothorax (punctured lung), convulsions, local infections, hepatitis B (from unsterile needles), bacterial endocarditis, contact dermatitis, and nerve damage. The herbs used by acupuncture practitioners are not regulated for safety, potency or effectiveness. There is also the risk that a lay acupuncturist will fail to diagnose a dangerous condition.

### Legal Status

All states permit acupuncture to be performed - some by physicians only, some by lay acupuncturists under medical supervision, and some by unsupervised lay persons. Seventeen states permit lay acupuncturists to practice without medical supervision. In 1990 the National Accreditation Commission for Schools and Colleges of Acupuncture and Oriental Medicine was recognized by the U.S. Secretary of Education as an accrediting agency. [Note: Such recognition is not based upon the

scientific validity of what is taught but upon other criteria.]

Many insurance companies cover acupuncture treatment if performed by a licensed physician, but Medicare and Medicaid generally do not. Acupuncture needles are considered investigational (unapproved) devices by the U.S. Food and Drug Administration.

In California, where acupuncture is being offered for hypertension, obesity, heart failure, arthritis, and smoking and drug withdrawal, the acupuncture law permits acupuncturists to advertise treatment for any ailment except cancer, as long as a cure is not promised. Cancer treatment is prohibited by the California Cancer Law.

Every ethnic group has its own set of medical customs not supported by science. Some proponents argue that Asian populations should have access to their traditional remedies, however ineffective and unscientific they may be. This question is difficult to resolve because it conflicts with the modern principle of consumer protection based on reliability and fulfillment of promised claims. Cultural activities are generally tolerated provided that they do not conflict with laws for the general population and are not dangerous. Chaos would result if the populace could not be protected from misrepresentation, and if insurance companies were forced to pay for all traditional foreign methods.

## **NCAHF Recommendations**

The National Council Against Health Fraud believes that after more than twenty years in the court of scientific opinion, acupuncture has not been demonstrated effective for any condition. We therefore advise the following:

### **To Physicians:**

Note that the scientific literature provides no evidence that acupuncture can perform consistently better than a placebo in relieving pain or other symptoms for which it has been proposed. Most reports claiming positive and statistically significant results for acupuncture are flawed by biased patient selection, poor controls, lack of blinding, or insufficient numbers. There is no physiologic rationale for why acupuncture should work other than for its placebo or counter-irritant and distracting effects. For these reasons, acupuncture should not be offered without full informed consent, reminding patients that acupuncture is experimental, has not been proven more effective than a placebo, and has some risk of complications.



### **To Consumers:**

Beware of misleading and untrue statements made for acupuncture. Some states do not regulate such claims. Because laws are political tools, not scientific ones, the political process often responds to pressures independent of scientific evidence. Acupuncture cures nothing. It may relieve symptoms with the frequency of a placebo. It may be harmful. Consumers wishing to try acupuncture should discuss their situation with a knowledgeable physician who has no commercial interest.

### **To Legislators:**

Acupuncture licensing should be abolished. Public display of unaccredited degrees by individuals offering any form of health care should be banned. Insurance companies, HMOs and government insurance programs should not be forced to cover acupuncture unless scientific evidence demonstrates that it has value.

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