Acupuncture in Primary Care

Introduction
In our modern world, an increasing number of people are suffering from chronic diseases, functional and pain disorders. Stressful lifestyles, deteriorating economic situations, unhealthy diets and lack of exercise are some of the factors affecting these trends in our society. Many adults are struggling with insomnia, nervous breakdown, anxiety, depression, over-eating, and various pain syndromes. Also, increasingly more children are suffering from obesity, diabetes, asthma, attention deficits and hyperactivity, environmental and food allergies, substance abuse and addictions. Consequently, more analgesics, narcotics, and psychotropic drugs are being prescribed in primary care. Unfortunately, these medications are often less than ideal and can cause side effects. There are other modalities that can be utilized to help solve these problems in medicine, one of them being acupuncture.

According to the 2002 United States National Health Interview Survey, around two million Americans reported recent use of acupuncture (#1). Another survey from 2002 estimated that 8.2 million adults in the United States had used acupuncture (#2).

The fact that so many of our fellow citizens seek acupuncture treatment should alert physicians to pay attention. Generally speaking, most people seek acupuncture because somebody they know has benefited from acupuncture. Often, the conventional treatment they were prescribed was either not working, or working but inadequate, or causing side effects. The conventional treatment can also be too invasive, too costly, difficult to comprehend, or not addressing or meeting the needs of the patients. Imagine a hyperactive child suffering from insomnia and stunted growth as a result of taking amphetamines for his attention deficit. What is the mother to do? Continue the medication so her son can focus at school despite of the side effects? Also imagine a son caring for his elderly father with chronic pain. Due to his kidney failure (thus anti-inflammatory drugs are contraindicated), this elderly father has to resort to taking narcotics to alleviate his pain. Consequently, he spends his waking hours in a daze and is at high risks of falls, needing 24-hour supervision for his daily living.

Certainly, there are gaps to be filled in primary care. We cannot forget that modern medicine has saved thousands of lives, increased our longevity, and improved the quality of our lives. Vaccinations, antibiotics, IV hydration, cardiopulmonary devices, surgical procedures and cancer therapies have kept us healthy and living longer. However, the disease model or approach taken in modern primary care medicine has its shortfalls. Most chronic diseases develop through time and exhibit very non-specific symptoms at an early stage. Most people who present to their doctors have certain dysfunctions that more often than not, do not fit any disease categories. These dysfunctions can be addressed through good doctor-patient relationships, careful observations, diligent follow-ups, involvement of patients and
the community in health maintenance. Perhaps a shift of our medical paradigm is in order, as alleviating suffering prior to the development of disease is critical in the prevention of chronic diseases. Acupuncture, as the story unfolds on this website, can be a useful tool in reducing suffering prior to disease development, thus can play a part in prevention and public health.

Before we arrive at how we may want to use acupuncture for disease prevention and public health, however, an understanding of the history and the current research status of acupuncture is necessary.

The History of Acupuncture

Originated in ancient China, acupuncture consists of needling techniques applied to specific points on the body to restore health. These techniques are based on the theory of meridians and energy or “Qi” flow, which evolved after painstaking observations based on Chinese philosophies (#3). Huang Di Nei Jing (Inner Classic of the Yellow Emperor), dated around 100 BC, was the first written document to record the use of acupuncture. Confucianism and Taoism are the main Chinese philosophies that are imprinted in the fundamental principles of acupuncture, whereby the human body was regarded as a microcosmic reflection of the macrocosm of the universe. These philosophies emphasized the importance for humans to understand, integrate and abide by the laws of nature rather than to resist or alter them. Therefore, concepts used to explain nature, such as Yin/Yang and Five Elements became central to acupuncture theory. To maintain health is to maintain the body’s harmony or balance in relation with the internal and external environment. Acupuncture is used to unblock the obstruction or correct the imbalance of energy flow in the meridians when disease or dysfunction occurs (#4).

For almost 2000 years acupuncture underwent significant development and was thought to climax in the Ming Dynasty (1368-1644), as evidenced by the publication of the Great Compendium of Acupuncture and Moxibustion in 1601. Afterwards, its popularity waxed and waned due to social and political pressures arising from influences of the West, but a modern resurgence occurred when Mao ZeDong encouraged the use of acupuncture among the “barefoot doctors” in China (#4).

The Dissemination of Acupuncture

Approximately 10,000 treatises on acupuncture exist from the centuries preceding our modern era. Historically, acupuncture scholars freely edited prior texts and added personal commentaries, interpretations, clinical vignettes and experiences. Consequently, present copies of ancient texts often present a medley of teachings and interpretations of multiple acupuncture scholars, which contributed largely to the marked heterogeneity seen in today’s acupuncture practice.

In the 6th century acupuncture was disseminated to Japan and Korea. Later it spread to Southeast Asia in the 9th century, and then to Europe in the 16th century
when translations of Asian texts were brought back by missionaries and traders. In countries such as France, acupuncture became relatively established since the 18th century and persisted due to perpetual colonial influences (#4). Thus, through its long history and dissemination, acupuncture has evolved and diversified into a large array of styles and techniques. Common styles of acupuncture include Traditional Chinese, Japanese, Vietnamese, Korean, and French acupuncture. There are also specialized systems of acupuncture including auricular, scalp, and hand acupuncture. Apart from needles, modern acupuncturists can incorporate manual pressure (acupressure), moxibustion (burning of an herb called Artemisia Vulgaris), heat (from infrared heat lamp), electrical stimulation, low-power lasers, magnets and ultrasound in their acupuncture treatments.

**Acupuncture in the United States**

In the United States, traces of acupuncture appeared as early as the 1900’s. Sir William Osler, Father of Modern Medicine, mentioned acupuncture in his early editions of Principle and Practice of Medicine (#5). However, it was not until 1971 that widespread public and professional awareness began in North America. Mr. James Reston, a journalist then covering the Ping-Pong tournament between the US and Chinese teams, reported his emergency appendectomy done in Beijing in 1971. On a front-page article in the New York Times, he described how his post-operative pain was relieved by the use of three acupuncture needles. In 1972, President Richard Nixon visited China and his personal physician witnessed several surgeries using acupuncture analgesia (#6). Also around this time, a team of respected physicians from the United States carried out detailed observations and reported favorably on the use of acupuncture as a surgical analgesia technique in Chinese hospitals (#7). These events have open doors for exchange and spurred the integration of acupuncture and Chinese medicine into Western medical practice (#8).

A survey from 2002 estimated that 8.2 million adults in the United States had ever used acupuncture (#2). The 5 conditions most commonly treated with acupuncture were back pain, neck pain, joint pain, headache, and “head/chest cold”. Other commonly treated conditions include anxiety, depression, fatigue and depression. Several surveys showed that acupuncture is the complementary and alternative medicine therapy most likely to be recommended by conventional medical professionals. In the U.S., acupuncture use tends to be more prevalent among Asian immigrant populations such as Vietnamese and Chinese Americans (#4).

**The Acupuncture Encounter**

A typical acupuncture treatment begins with identification of the patient’s constitutional pattern. To accomplish this, the “Four Pillars of Evaluation”: inspection, inquiring, auscultation and palpation are used. According to traditional Chinese medical theory, practically everything about the patient, including the skin, bones, smells, sounds, emotions, preferences, body types, mental state, and
demeanor reflects the state of internal organs and can be used in diagnosis. Thus, the evaluation may be extensive, often incorporating seemingly unrelated symptoms in the eyes of Western-trained clinicians. Eastern medicine values the acupuncturist’s initial assessment and encourages the acupuncturist to hone his/her own intuition in observing the patients and to extract additional subtleties. Eastern philosophy perceives the world as interconnected and dynamic, thus it makes little sense for an acupuncturist to isolate symptoms such as back pain, as the symptoms necessarily arise from a particular context. Therefore, acupuncture treatments are usually individualized. Two patients with identical problems will often get different acupuncture treatments. Points combinations usually vary between sessions and the same patient may not receive the same acupuncture treatment on subsequent visits even when the same condition is addressed (#4).

Once diagnosis is established, the acupuncturist inserts sterile, fine metal needles into precisely defined points to correct the dysfunction. Classic acupuncture theory recognizes approximately 365 points, located on 14 meridians (or channels) connecting the body. These meridians are associated with specific organs, although theoretically not in the anatomic sense to which biomedical clinicians are accustomed. Typically about 5 to 20 needles are used in an acupuncture treatment. In Traditional Chinese Acupuncture, needle effectiveness is often measured by the elicitation of “de qi” sensation. This sensation is described as a transient “throb” or an “ache” or “heaviness” by the patient and a “grasp” by the acupuncturist, and is obtained by manipulation of the acupuncture needle. Once inserted, needles are usually left for 15 to 30 minutes while patient lies relaxed, many of them even fall asleep during the treatment. Acupuncture needles are removed at the end of the session. Treatments generally occur 1 to 2 times per week, and the total number of sessions varies depending on the condition, disease severity and chronicity (#4).

Other treatment modalities, such as moxibustion, acupressure, laser acupuncture, electro-acupuncture, magnets, and ultrasound may be used in conjunction with an acupuncture treatment. Historically, Chinese herbal interventions have been the mainstay of East Asian therapy. Acupuncturists may also use physical techniques such as massage, Tai Chi, Tui Na (Chinese physical manipulation therapy), and cupping (placing vacuum suction over acupuncture points of affected areas). Another component of acupuncture care is lifestyle counseling around issues of diet, exercise and mental health. Furthermore, the acupuncture experience itself, frequently described by patients as soothing and relaxing, and the patient-acupuncturist relationship, are considered therapeutic and sufficient to promote healing (#4).

The Science of Acupuncture
Science forms the strong basis of our modern medicine. Traditional acupuncture theories, however, are not based on anatomical, physiological, or biochemical evidence. This made it extremely difficult for mechanistic understanding of acupuncture (#8). In the last 40 years, many scientists, both from the Western and
Eastern hemispheres, have proposed multiple physiologic models to explain the effects of acupuncture. Endorphins, cytokines, hormones such as cortisol and oxytocin, biomechanical effects, the immune system, electromagnetic effects, autonomic and somatic nervous systems have been implicated in these models. Unfortunately the data have been inadequate or too inconsistent to draw significant conclusions (#4).

To date, pain relief is the most thoroughly studied application of acupuncture. Endorphin release at the spinal and supra-spinal levels is thought to be the neurotransmitter effects of acupuncture stimulation (#4).

“In 1987, Pomeranz proposed that acupuncture stimulation activates A-gamma and C afferent fibers in muscle, causing signals to be transmitted to the spinal cord, which then results in a local release of dynorphin and enkephalins. These afferent pathways propagate to the midbrain, triggering a sequence of excitatory and inhibitory mediators in the spinal cord. The resultant release of neurotransmitters, such as serotonin, dopamine, and norepinephrine onto the spinal cord leads to pre and postsynaptic inhibition and suppression of the pain transmission. When these signals reach the hypothalamus and pituitary, they trigger the release of adenocorticotropic hormones (ACTH) and endorphins. Pomeranz’s theory was confirmed by a large series of experiments by his research laboratory and other investigators. This conceptual framework for acupuncture-induced analgesia has also been investigated in a series of neurophysiologic and imaging studies over the last three decades,”(#8).

In support of Pomeranz's theory, opioid antagonists (eg. Naloxone) were found to block the analgesic effects of acupuncture. In contrast, however, the Endorphin effects appear to be short-term, only lasting 10 to 20 minutes up to several days, while many acupuncture clinical trials have documented longer effects. In addition, endorphin release can be induced by strongly stimulating any muscle afferents or free nerve ending. Thus, the specificity and rationale of acupuncture point locations for different conditions remain unexplained (#4).

According to a recent review article on the scientific basis of acupuncture analgesia (#8), the conclusions based on current neurophysiologic studies are as follows:

1. Afferent nociceptive pathways are essential for acupuncture analgesia.
2. Acupuncture analgesia is mediated by way of various endogenous neurotransmitters, systemic release of enkephalin and dynorphin, and probably by decreasing the local inflammatory response via N-methyl-D-aspartate receptors.
3. The acupuncture-induced pain threshold is gradual, with a peak effect at 20 to 40 minutes, followed by an exponential decay with a half-life of approximately 16 minutes.
4. A prolonged period of acupuncture stimulation results in tolerance that is mediated via release of cholecystokinin octapeptide.
5. Immunochemistry studies indicate that both pain and acupuncture activate the hypothalamic-pituitary-adrenocortical axis.
Powerful imaging technologies such as PET scan (positron emission tomography), functional MRI (magnetic resonance imaging) and SPECT (single-proton emission computer tomography) have recently allowed non-invasive visualization of anatomical and functional effects of acupuncture stimulation in the human brain. Based on current central nervous system (CNS) imaging studies (#8), the following conclusions were made by investigators:

1. The hypothalamus and the limbic system play a central role in acupuncture analgesia.
2. The significant overlap between acupuncture and CNS pain pathways suggests that acupuncture stimulation may affect pain signals processed in the CNS.
3. Traditional needling (with “de qi” sensation) and superficial needling activate two different central pathways and yet both provide clinical analgesia.

The majority of current neuroimaging studies in acupuncture are merely explorations of acupuncture signal networks. The clinical relevance of the data obtained from these studies remains unclear (#8).

Worth mentioning, especially for the Quantum physics enthusiasts among us, is that a group of German scientists and physicists have recently demonstrated “evidence of the existence of the acupuncture meridian structure in the human body” via the use of biophotonics in the infrared spectral range (#9).

The scientists stated that: “After moxibustion (or similar light stimulation) of the body in the 3-5 micrometer range, “light channels” appear on the body, which appear to be identical to what are known as meridians in all textbook of Traditional Chinese Medicine. These findings appear not only to confirm the existence of acupuncture meridians, but they also open a new window on understanding the energy transfer dynamics of the human body. Furthermore, it is likely that living matter is not in the ground state, but permanently electronically excited,”(#9).

Clinical Evidence and Research of Acupuncture
Currently there are hundreds of controlled trials of acupuncture for various conditions. Acupuncture randomized controlled trials share difficulties similar to trials in other domains: inadequate sample size, improper statistical analysis, imprecise outcomes, and lack of follow-up, inappropriate evaluation of results, etc (#4). Some problems, however, are unique to acupuncture research:

1. Acupuncture versus biomedical diagnoses---There is no such thing as one single acupuncture treatment for one bio-medically defined disease. A disease as defined by biomedicine, take diabetes for example, can have many patterns in Eastern diagnosis, including “Stomach Fire,” “Spleen Yang deficiency” or “Kidney Yin deficiency”, etc (#10, #11, #12).
2. Standardized treatment versus individualized treatment---Randomized controlled trials require acupuncture treatments to be standardized for scientific comparison. However, this is in contrast with the acupuncture
practice in the real world, where acupuncture treatments are is usually individualized and changing as the patients' presenting symptoms change.

3. **Heterogeneity of acupuncture**---The many different acupuncture styles and techniques present an array of confounding or complicating factors to acupuncture research. In the U.S. alone, there are at least 8 different styles of acupuncture taught in the different accredited schools. Differences exist on the choice of points, types of needles used, types of manipulation, length of time the needles are left in patients, and responses elicited in patients (such as whether “de qi” sensation is sought). Therefore, it is difficult for researchers to generalize or extrapolate the results of a trial using a single type of acupuncture to other types (#4).

4. **Issues of sham acupuncture**---In acupuncture research, “sham” or “fake” acupuncture has been used as control to support or disprove the hypothesis that acupuncture could be just a strong placebo. Sham acupuncture can be divided into invasive and non-invasive sham techniques (see Appendix 1) (#13). Due to the heterogeneity of acupuncture, an optimal control for one style of acupuncture may not be ideal for another.

   Historically, the term ‘placebo control’ implies the use of a truly inert intervention associated mainly with pharmaceutical trials. However, any needling, whether superficial or deep, on or off the meridian/channel, is not inert. There is good evidence that needling at non-acupuncture sites induces physiological responses, including analgesic responses in the same segment or dermatome (homo-segmental response) (#14), effects on microcirculation (#15), and diffuse noxious inhibitory control (#16). These responses render any control treatment that involves invasive needling clearly not inert (#13).

   The proposed meridians or channels in acupuncture are thought to be rather close-knit in the body, and it is hypothesized that some of the trajectories or courses of the meridians may overlap. It may be that any needling on a non-acupuncture site can stimulate similar effect (perhaps of different intensity).

5. **The blinding issues**---It is very difficult for researchers to perform double-blind placebo-controlled acupuncture studies. The non-invasive sham techniques can create problems with blinding for both the patient and acupuncturist. For obvious reasons, it is only possible to use these techniques as controls in people who have no knowledge of acupuncture; and preferably applying the techniques to body areas where patients are unable to visualize the procedure. Some may argue that one could blindfold the patients, but this may create further confounding factors such as psychological factors.

   Any educated acupuncturists will be able to discern between true acupuncture versus sham techniques, which makes blinding of the acupuncturists impossible. If one uses non-acupuncturists to apply these techniques, then it clearly changes the patient-practitioner relationships, which deviates from real-life practice. Also, some people receiving acupuncture will be able to discern a difference between the real and a sham procedure.
6. **The experience in acupuncture treatment**—Unlike pharmaceutical trials, delivering and receiving acupuncture is not as simple as administering pills. The acupuncture experience itself, much like treatment experience in psychotherapy or physical therapy, can play a critical role in determining outcome (#4).

**Clinical Indications of Acupuncture**

Since the explosion of modern research in acupuncture, many meta-analyses and systematic reviews have been performed. One important source is the Cochrane Collaboration (www.Cochrane.org). Currently there are more than 70 acupuncture titles being reviewed and almost 30 of these are published full reviews.

According to these and other data, acupuncture is documented to be effective in (whether or not it is more efficacious than sham acupuncture) (#4, #19):

- Chronic Back pain
- Acute pain including dental pain
- Headache
- Fibromyalgia
- Hypertension(#17)
- Postoperative nausea and vomiting
- Chemotherapy induced nausea
- Osteoarthritis of the knee
- Pain relief after oocyte retrieval
- Aiding gastrointestinal endoscopy
- Improving rates of pregnancy in women undergoing in vitro fertilization (#18)

For the vast majority of conditions studied, the data appear inconclusive. Due to numerous methodological and other issues, the current evidence in acupuncture allows ample room for interpretations. The evidence is currently insufficient and is inconclusive regarding the effectiveness of acupuncture in addictions, asthma, Bell’s palsy, facial pain, neck pain, cancer pain, depression, TMJ syndrome, tinnitus, acute stroke, labor pain, insomnia, dysmenorrhea, sciatica, shoulder pain, and surgical pain. The current data do not support recommendation of acupuncture for smoking cessation and weight reduction (#4, #19).

In general, for patients with chronic pain, acupuncture appears to have much greater efficacy than when patients are left untreated (this is true whether acupuncture is superior to sham techniques or not). Therefore, the current recommendation (Grade 2B) is that when safe alternatives are unavailable or limited, patients with chronic pain who are open to or interested in acupuncture should be referred for a trial of acupuncture (#4).
For the physicians, a Grade 2B recommendation denotes:
Recommendation Grade 2: “Weak recommendation: Benefits and risks closely balanced and/or uncertain”
Evidence Grade B: "Moderate-quality evidence: Evidence from randomized trials with important limitations, or very strong evidence of some other form,” (#4).

**Contraindications of Acupuncture**
The vast majority of contraindications for acupuncture are relative rather than absolute contraindications.

1. Unexplained or undiagnosed medical or surgical conditions---In my mind, this is an absolute contraindication. Please never send your patient to an acupuncturist if you have not thoroughly investigated your patients’ problems, as this can delay or miss a medical diagnosis that can lead to dire consequences. A meticulous history, physical exam, and continuing observations and diligent follow-ups are always the best practice.

2. Sepsis and overwhelming infection---although acupuncture has been implemented in situations of shock and resuscitation (#20, #21), at the present time, there is insufficient evidence to recommend routine use of acupuncture in a patient inflicted with overwhelming infection or sepsis. Resuscitation with fluids and antibiotics using our current critical care knowledge remains the mainstay of treatment.

3. Unexplained and/or unstable syncope or seizure---these situations need to be addressed and stabilized with all modern medicine can offer before any acupuncture can be considered.

4. Damaged heart valves and endocarditis---although manually or electrically stimulated acupuncture needles are thought to have a bacteriostatic or even bacteriocidal effect, acupuncture needs to be used with extreme caution in a patient who is susceptible to endocarditis. Any disruption of the skin should also be avoided in severely neutropenic patients, as seen after myelosuppressive chemotherapy (#4). Similarly, for patients who are severely immuno-compromised, it is best to avoid acupuncture therapy.

5. Pacemaker or AICD (automatic implantable cardioverter-defibrillator) patients should avoid electroacupuncture or electrical stimulation (#4).

6. Bleeding disorders and use of anticoagulants---these are not absolute contraindications, as acupuncture needles are nearly always thinner or much finer than the phlebotomy needles and intravenous catheters routinely administered to these patients in hospitals. However, the acupuncturist should always be notified regarding any bleeding risks (#4).

7. Pregnancy---this is not an absolute contraindication. Acupuncture has been studied extensively for gestational conditions such as breech presentations, pregnancy-associated nausea and labor pain. In fact, there are certain acupuncture points that are known to induce labor; thus, if your patient is pregnant, her acupuncturist should definitely be informed (#4).

8. Local contraindications of acupuncture include active infection, skin lesions, or malignancy at the insertion sites, since there is the risk of worsening the
condition, such as spreading the infection, creating more inflammation, or causing the dispersal or metastatic tumor cells, respectively (#4).

**Adverse Events of Acupuncture**

Compared to many pharmacologic treatments, acupuncture is considered very safe. Major adverse events are exceedingly rare and are usually associated with acupuncturists who are unlicensed and poorly trained. All acupuncturists in the United States are required to use disposable sterile needles to prevent disease transmission. Complications that can occur in acupuncture treatment are similar to those seen with any type of needle use. These include needle shock or vasovagal syncope, disease transmission, needle breakage, pneumothorax, pneumoperitoneum, nerve damage, osteomyelitis, organ puncture, and cardiac tamponade. Obviously these complications can be avoided when the acupuncturists possess a solid knowledge of anatomy and physiology and the proper care and precautions are taken. Local complications of acupuncture treatment include pain, paresthesia, bleeding, contact dermatitis, and local infection.

Just to put into perspective, a prospective study in Japan of 65,482 acupuncture treatments and 2 surveys in the Great Britain totaling 66,000 acupuncture treatments showed no major adverse events (#4). A prospective study of 97,733 patients in 760,000 acupuncture sessions reported only about 3% needling pain and 3% hematoma and only 2 cases of pneumothorax (#23, #4).

**Referral and Insurance Coverage for Acupuncture**

In the United States, physician-acupuncturists are certified by the American Board of Medical Acupuncture (ABMA) and non-physician acupuncturists should be certified by the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM). An ideal acupuncturist should be one who has sound knowledge of anatomy and physiology. The acupuncturist should know his or her own limitations, and should be willing to work in tandem with physicians providing biomedical treatments. Patients should not be encouraged to stop standard medical treatments without consultation with their doctors. Optimally, there should be frequent communications between the acupuncturist and the patient’s primary care physician. However, this is still rare as there are still significant political and social barriers between the conventional medicine and the complementary and alternative medicine (CAM) providers in this country.

About 70% of acupuncturists in the United States practice alone or in acupuncture groups, 30% work in multidisciplinary settings, usually alongside other CAM providers. “In the US, as long as the referring clinician appropriately diagnoses and manages a condition, referral of patients to an independent licensed practitioner for whom it’s clear they have no supervisory role will not typically create a significant risk of legal liability,” (#4)

For the primary care physicians, Dr. Eisenberg has provided a step-by-step strategy in advising patients who seek alternative medical therapies in his paper in the Annals of Internal Medicine (#22).
In terms of insurance coverage, Medicare and Medicaid do not cover acupuncture. However, many other health insurance carriers have some form of acupuncture coverage, and their numbers have increased steadily in the recent years. There is significant variability in coverage; some plans require that acupuncture treatments be performed by physicians. If cost is a main concern, and given the number of sessions frequently required for acupuncture treatment (typically 6 to 12 for one course of treatment), patients should check with their insurance prior to choosing acupuncture (#4).
Snapshots of Acupuncture Vignettes

Practicing acupuncture has added color and variety to my life as a primary care physician. Here are some clinical vignettes that I will share with you. One afternoon, a woman in her fifties with a droopy left side of her mouth and an ironed-out left forehead presented to my office. Apparently she was diagnosed Bell’s Palsy and has been treated with Prednisone and acyclovir for the last 30 days without improvement. She was frustrated with the dysfunction and wanted to try acupuncture. It was quite early in my acupuncture career, so I consulted my Neuro-Anatomical Acupuncture book by Dr. Joseph Wong (#24). I laid her down comfortably and needled about 8 acupuncture points on her face. After 20 minutes, there was a remarkable improvement of the droopiness of her mouth and she smiled.

A man in his forties presented with a painful disabled arm from a motor vehicle accident. He described his pain as “constant hot soup” which continued to burn despite of all the strong narcotics, epidural injections, and other modalities he had tried. After several sessions of acupuncture, we finally reached a point where his pain was tolerable enough for him to function daily as an office worker. However, this only lasted until he found out that his health insurance no longer covered acupuncture, and that his next option was to approach a neurosurgeon for brain implant for adequate pain control. This implant alone cost in excess of $10,000 and the procedure carried much higher medical risks, but the entire procedure was fully covered!

I had been working at a fertility clinic, performing acupuncture pre- and post-embryo transfer during in-vitro fertilization (IVF). A lady in her late thirties had failed her previous two trials of IVF procedures. She was nervous and frustrated and emotional. I worked patiently with her for several weeks prior to her next trial of IVF to alleviate her anxiety and tension using acupuncture. Then, when the big day came, I performed acupuncture before and after her embryo transfer and hoped for the best. Almost a year later, she proudly sent me the picture of her fraternal twins.

Summary
Acupuncture is not an “alternative medicine” in the absolute sense. Acupuncture cannot stand alone in our modern medical armamentarium, nor can it replace conventional therapy in the treatment of diseases. However, intelligent use of acupuncture while taking all necessary precautions can make acupuncture a powerful and effective adjunct to our practice of medicine, especially in primary care.
References


Appendix 1: Sham acupuncture

In some acupuncture studies, 'sham acupuncture' has been proposed and used as controls. Sham acupuncture can be divided into invasive and non-invasive sham techniques (#13):

**Invasive sham techniques include:**

1. same depth and manipulation of needling at sites not on a channel/meridian;
2. different depth and manipulation of needling at sites not on a channel/meridian;
3. shallow or superficial needling with no manipulation at sites not on a channel/meridian;
4. shallow or superficial needling with no manipulation at the same prescribed treatment points;
5. shallow or superficial needling with no manipulation at non-relevant acupuncture points;
6. same depth and manipulation of needling at non-relevant acupuncture points.

**Non-invasive sham techniques include:**

1. retractable blunt needles;
2. guide tube pressure;
3. cocktail stick pressure;
4. toothpick pressure;
5. needle handle pressure;
6. tapping needle onto the skin;
7. sham-TENS, sham laser.