Acupuncture in China

A Suggested Curriculum for a 4th-Year Clinical Rotation

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Ben Mervak, Alison Kalinowski, and Malani Gupta
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A Letter of Introduction

Dear Dean Kolars and Doctor Heisler:

During our medical school experience, we had limited exposure to traditional Chinese medicine (TCM) and its associated therapies. This exposure was mostly through the Complementary Alternative Medicine (CAM) curriculum incorporated during the preclinical years. While in our clinical years, we found that there were a number of patients who took advantage of TCM therapies and acupuncture. It was in caring for these patients that we discovered our knowledge in this area could be improved. We therefore arranged to travel to Shanghai, China to complete an international elective studying TCM and acupuncture.

During our rotation, we worked with Doctor Xiang Qiong Yao in the Acupuncture Department at Ruijin Hospital, affiliated with Shanghai Jiao Tong University School of Medicine. Our activities included attending her acupuncture clinic where she treated patients for a variety of ailments. While in clinic, Dr. Xiang would translate patient histories and explain her medical decision-making. When there was extra time, she provided informal lectures on the theory of acupuncture; we did not have any formal lectures or classroom instruction during our rotation. We were provided several textbooks to review in between patients as well. Due to the language barrier, we primarily assisted with patient care by way of procedures: removing acupuncture needles and placing or removing cups for patients who received cupping therapy.

We have summarized our activities, experiences, and knowledge gained in the following curriculum report, providing suggestions where appropriate. We hope that this curriculum will help to facilitate future student studies—not only by persuading students to rotate in China, but also by helping them get the most out of their experience.

Thank you again for this opportunity. Please feel free to contact us if you have any questions or if we can be of further assistance.

Sincerely,

Ben Mervak, Alison Kalinowski, and Malani Gupta
Suggested Learning Objectives

1. Understand the history and basic theories of traditional Chinese medicine, acupuncture (e.g. meridians, collaterals, etc.) and cupping.

2. Gain an understanding of anatomy from a traditional Chinese medicine point of view (e.g. the location of major meridians, collaterals, and acupoints).

3. Become familiar with the "homunculus of the ear" (i.e. different acupoints in the ear for various conditions affecting the entire body).

4. Learn some basic Chinese phrases to communicate with Chinese-only speaking patients. (e.g. Hello – Ni hao. Sorry – Dui Buqi. Any needles left? – Hai you zhen ma? etc.)

5. Complete the basic requirements of the rotation, as outlined on page 13.

6. Learn the common conditions for which patients may seek acupuncture treatment (e.g. weight loss, arthritis, stroke, insomnia, and low back pain).

7. Understand the components of the acupuncture history and physical, including the similarities and differences from typical Western history and physical (e.g. bilateral pulse measurement, checking under tongue, etc.).

8. Be aware of the risks, complications, and contraindications of acupuncture and cupping.


10. Learn about why and when moxibustion is used, and the different agents that may be used for this treatment modality.

11. Consider the similarities and differences of patient privacy policies at Ruijin Hospital vs. UMHS, and what the pros and cons are of the Chinese system.

12. Observe the rapport/relationship developed between patient and doctor, and compare to patient interactions you have observed at UMHS.

13. Take advantage of any opportunities to observe other aspects of TCM (e.g. visit the Massage Department or observe herbal treatment in the inpatient wards, etc).

14. Explore how TCM and Western medicine intersect in patient care at Ruijin Hospital.

15. Perform a literature search regarding acupuncture efficacy and safety.

16. OPTIONAL: Get acupuncture, cupping, or electrical stimulation done on yourself, or perhaps by a fellow student!?!
Introduction to Acupuncture and Related Therapies

Acupuncture is a form of ancient Chinese medicine, based on the theories of traditional Chinese medicine (TCM). According to TCM theory, the body has a balance of yin and yang. Yin represents shadow/night and yang represents light/day, and the two are exactly opposite. Yang pertains to the qualities of warm, active, and ascending while yin pertains to anything cold, static, or descending. All things and processes can be categorized as either yin or yang. However, they are not mutually exclusive, as there is a constant and complex interaction between yin and yang.

In addition, there are five elements defined by TCM: wood, fire, earth, metal, and water. Similarly, there are five most important organs in the body, called “zang” organs. Each element corresponds to one of five zang organs. Wood corresponds to liver, fire to heart, earth to spleen, metal to lung, and water to kidney. It is important to note that in TCM, the definition of an organ takes on a broader meaning than the Western definition. For example, the spleen is thought to play a role in digestion and the heart is thought to control cognitive activities. There is a delicate balance between each of the five elements and zang organs.

There is a specific flow of energy (qi) and blood through the body involving the zang organs. The path the energy follows in the body is traced by meridians. There are 12 regular meridians, 8 accessory meridians, and a few "extra" meridians. The regular meridians include 3 yin meridians of the hand, 3 yang meridians of the hand, 3 yin meridians of the foot, and 3 yang meridians of the foot. It is along these meridians that discrete acupoints can be found.

There are a total of 361 acupoints on each side of the body, and an additional point on the midline. Acupoints can relieve problems that are both local and distant to the point itself. Points distal to the elbows and knees are particularly effective for distant tissues and organs. The ear has an especially high concentration of acupoints. In fact, an entire homunculus can be represented on the ear!

Acupoints can be located according to landmarks and measurements. The typical length of measure is called a "cun." One cun is equal to the width of the patient's thumb at the IP joint, or the length of the distance between the PIP and DIP of the index finger. The

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**Figure 1. The five elements and their corresponding zang organs.**

**Figure 2. The "homunculus" of the ear.**
distance across the patient’s four fingers is defined as 3 cun.

Upon examining the patient, he or she is first asked about their chief complaint. In addition, specific questions are asked regarding bowel functions, menstrual cycles, and mood. Past medical history and current medications are collected as well. The physical exam consists of an assessment of the patient’s general appearance and skin color, examining the patient’s tongue, and feeling pulses. The radial pulse is of particular importance. At this location, the pulse is taken along 3 separate locations and at varying depths, with each location corresponding to one of the zang organ’s function. Depending on the rate, amplitude, and other qualities of the pulse, numerous possible imbalances may be suggested.

After the patient is assessed, needles are placed. First, the areas are sterilized with a cotton ball soaked with ethanol. Then, needles are precisely inserted into the acupoint. Needles of varying lengths and diameters may be employed depending on location. After needle is inserted, it may be manipulated up and down or back and forth to cause a sensation of pain or distention. This motion is called “tonification,” thought to stimulate the arrival of qi. Once the needles are placed, the most important acupoints are connected to an electrical current. The current is increased as the patient can tolerate. Needles, with current flowing, are left in place for about 30 minutes for chronic complaints and about 15 minutes for acute complaints. Sometimes, special tiny intradermal needles are left in place for days to months and can be removed by the patient at home. Complications of acupuncture include stuck or broken needles, pneumothorax, bleeding or infection at puncture site, or peri-orbital bruising when needles are placed on the face.

A variety of other techniques are used to augment needling in the acupuncture clinic. Moxibustion involves the application and burning of moxa (mugwort) to the body. Moxa cones may be burned at the ends of acupuncture needles or directly on the body. Sometimes, a piece of ginger, garlic, or special paper is placed between the moxa cone and the skin to prevent blistering and scarring. Patients can continue treatment at home by waving burning moxa rolls (which look similar to a cigar) over certain points.

Cupping is used quite frequently, either before or after the placement of needles. Cups may be made of any material, including bone, bamboo, or glass. Glass is commonly used in clinic because it is smooth and easy to clean. Smooth, flat
parts of the body are most conducive to cup placement, especially the back. Cups are placed by igniting a torch within the globe to create a vacuum, then quickly applying to patient's skin. The suction created by the cup causes congestion and tenting of the skin. Cups are left in place for about five minutes. Patients typically have circular bruises in the shape of the cup after the procedure; these can last several days.

A heating lamp is often used simultaneously with needle and/or cup placement. It is thought to improve circulation by replicating a warm climate. In addition, localized heat to a painful area is thought to provide relief. Another technique is IM or IV injection at the site of acupoints. Vitamin B12 is injected to help patients with fatigue, weakness, and heightened sensitivity to pain. Herbal medicines, such as Dashang, may also be injected. Some patients receive herbal rubs before acupuncture treatment, while others receive prescriptions for herbal remedies from their acupuncture providers.

Acupuncture is used primarily for chronic problems that have failed Western medical management. The most common indications for acupuncture in Ruijin Hospital are chronic low back pain, weight loss, and insomnia. Problems are typically treated with frequent visits for acupuncture. For example, weight loss and back pain patients are seen twice weekly. Treatments are adjusted according to patient progress and preferences. There is little objective recording keeping, rather the practitioner relies on patient report at each visit to guide further treatment.
Patient Demographics

The patients in the clinic at Ruijin Hospital showed diversity in both the population and the illnesses that can be managed with acupuncture. Below is a consideration of the patient age, gender, and chief complaints seen during our rotation.

Notably, during our time at the clinic, we saw patients of all adult age groups, from 20 to 90 years old. Patients between 20 and 30 years of age were less common, possibly because of the relatively low incidence of disease in this young population. Otherwise, middle-aged and older patients (40-80 years) were present in approximately even numbers. However, 30-40 year olds appeared to be over-represented, with 31% of all patients seen falling in this age range. This is possibly a result of the prevalence of obesity in patients presenting to the clinic, the desire of this age group to have obesity treated, and Dr. Xiang’s professional interest in treating obesity with acupuncture. Of all patients presenting for treatment of obesity, 59% were in the 30-40 age group.

The gender of patients presenting for acupuncture was also unevenly divided, with approximately three quarters of patients being female. As the diseases treated would be expected to affect males and females evenly, this may represent gender-based differences in views on acupuncture or medical treatment in China in general.
The diseases treated by acupuncture encompassed numerous organ systems and pathologic processes. The most common illnesses addressed by Dr. Xiang were musculoskeletal pain (broken down above into ‘neck pain,’ ‘back pain,’ and other ‘MSK pain’ categories) and obesity, representing 32% and 26% of her patient population, respectively. Stroke rehab or neurological impairment was the chief complaint of approximately 11% of patients, and 6% of patients seen complained of either insomnia or dysmenorrhea. Other diseases treated included generalized fatigue, hypothyroidism, post-herpetic neuralgia, GU cysts, depression, acne, double vision, and acute hiccups.

**Sample AM Clinic Patient Log**

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Chief Complaint</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>30-40</td>
<td>Male Lower back pain, ? 2/2 herniated disc while exercising. Has received treatments before for weight loss. FH of morbid obesity and DM.</td>
<td>Acupuncture with electrostimulation, cupping, acupressure on L ear</td>
</tr>
<tr>
<td>2</td>
<td>60-70</td>
<td>Male Stroke 6 months ago, remains with L sided weakness.</td>
<td>Acupuncture with electrostimulation, cupping</td>
</tr>
<tr>
<td>3</td>
<td>30-40</td>
<td>Female Obesity</td>
<td>Acupuncture with electrostimulation</td>
</tr>
<tr>
<td>4</td>
<td>40-50</td>
<td>Female Obesity</td>
<td>Acupuncture with electrostimulation</td>
</tr>
<tr>
<td>5</td>
<td>70-80</td>
<td>Female Back pain, osteoarthritis of knees bilaterally.</td>
<td>Heated massage/stimulation, acupuncture with electrostimulation, cupping</td>
</tr>
<tr>
<td>6</td>
<td>30-40</td>
<td>Female Obesity</td>
<td>Acupuncture with electrostimulation</td>
</tr>
<tr>
<td>Age</td>
<td>Gender</td>
<td>Procedure</td>
<td></td>
</tr>
<tr>
<td>-----</td>
<td>--------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>60-70</td>
<td>Male</td>
<td>Neurological deficits 2/2 meningitis 5y ago c/b coma for 3 months. Now readmitted as inpatient, with acupuncture as part of treatment plan.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Female</td>
<td>Shoulder and lower back pain causing insomnia</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Male</td>
<td>New patient with complaints of obesity with failure of dietary treatment. Now weighs ~130kg.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Female</td>
<td>Hypothyroidism; not taking synthroid. Also reports visual changes with black spots bilaterally.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Female</td>
<td>Cervical and lumbar spine pain. PMH of irregular and heavy perimenopausal menstruation causing anemia, now s/p hysterectomy 2y ago.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Female</td>
<td>Obesity, PCOS with menometrorrhagia</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Female</td>
<td>Insomnia</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Female</td>
<td>New patient. Complains of obesity which she is unable to bring under control.</td>
<td></td>
</tr>
</tbody>
</table>

**Sample AM Clinic Procedure Log**

<table>
<thead>
<tr>
<th>Age</th>
<th>Gender</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-70</td>
<td>Female</td>
<td>Cup removal - BM</td>
</tr>
<tr>
<td>50-60</td>
<td>Male</td>
<td>Cup removal - AK</td>
</tr>
<tr>
<td>30-40</td>
<td>Female</td>
<td>Cup removal - AL</td>
</tr>
<tr>
<td>30-40</td>
<td>Female</td>
<td>Cup removal - MG</td>
</tr>
<tr>
<td>20-30</td>
<td>Female</td>
<td>Needle removal - AK</td>
</tr>
<tr>
<td>40-50</td>
<td>Female</td>
<td>Needle removal - MG</td>
</tr>
<tr>
<td>70-80</td>
<td>Female</td>
<td>Cup removal - AL</td>
</tr>
<tr>
<td>50-60</td>
<td>Male</td>
<td>Needle removal - MM</td>
</tr>
<tr>
<td>60-70</td>
<td>Male</td>
<td>Cup removal - BM</td>
</tr>
<tr>
<td>50-60</td>
<td>Female</td>
<td>Needle removal - AL</td>
</tr>
<tr>
<td>60-70</td>
<td>Male</td>
<td>Cup removal - AK</td>
</tr>
<tr>
<td>50-60</td>
<td>Female</td>
<td>Cup removal - MG, MM</td>
</tr>
<tr>
<td>60-70</td>
<td>Female</td>
<td>Cup removal - MG; X-ray interpretation - BM; Needle removal - BM</td>
</tr>
</tbody>
</table>
Case Report

Mr. WHG is a 61-year-old man with an unknown past medical history who originally presented to Ruijin Hospital at Shanghai Jiao Tong University in 11/2005 with complaints of high fevers to approximately 39°C. He was admitted for empiric IV antibiotics and further evaluation of these fevers of unknown origin. Over the next several days, he had mental status changes, and a CSF analysis was performed which revealed tuberculous meningitis. Despite aggressive treatment with IV antibiotics directed against tuberculosis, the patient continued to deteriorate. Imaging demonstrated ongoing inflammation within the brain and ventricles, and Neurosurgery recommended the placement of a CSF shunt. Unknown complications during this procedure led to the patient being in a coma for approximately 40 days afterwards. Upon regaining consciousness, the patient had significant neurological sequelae, and was unable to speak or swallow effectively, could not fully protect his airway, and had no control over his bowel or bladder function.

Mr. WHG was kept as an inpatient for ongoing rehabilitation, but received treatment at two hospitals; due to Chinese insurance regulations, he was transferred to and from Ruijin Hospital every two months. This process of treatment and rehabilitation continued for the year of 2006, and until April of 2007. Toward the end of his inpatient stay, Mr. WHG was recommended as a candidate to receive daily acupuncture therapy for the neurological issues he was experiencing. He continued these treatments during numerous scheduled inpatient admissions that originally took place approximately every month. Over time, Mr. WHG has slowly regained some function, and is presently able to walk with support, speak with less hindrance, feed himself, and maintain continence for longer periods of time. He continues to be admitted 3-4 times yearly for acupuncture treatments, IV herbal supplements such as ginkgo, and multiple neurologically active medications. Mr. WHG and his wife, who also functions as his caretaker, have been very satisfied with acupuncture as a form of therapy for his neurological dysfunction, and plan to continue therapy for the foreseeable future.

This patient was most recently admitted to the hospital for scheduled treatment on February 28, 2011. During his two week stay, he came for daily treatments which included acupuncture with electrostimulation, with or without cupping. A detailed look at the acupuncture therapy he received is below:
1. **Placement of scalp needles**

Although numerous meridians have acupoints on the scalp, modern practice of scalp acupuncture involves placement of needles into zones for effects. Much like the brain’s homunculus, the legs and feet have their zones toward the midline, while upper extremities lie more laterally. The scalp points chosen here stimulate the motor and sensory areas representing the leg and foot bilaterally:

![Figure 10. Placement of scalp needles.](image)

2. **Placement of upper extremity needles**

Acupoints selected on the arms include, on the left side, the large intestine yangming meridian points 4, 6, 10, and 11.

- All of these points are all used to promote hand, wrist, and facial strength, thereby reducing paralysis on that side of the body.
- Large Intestine-4 is used extremely often, as it is a Yuan-source point, meaning that it is highly active in regulating the function of internal organs. Additionally, it is the ‘pain point,’ which reduces discomfort throughout the body.
- On the right side, only point 4 was used due to this patient’s weakness on the L > R.

![Figure 11. Needles placed at specific Large Intestine acupoints.](image)
3. Placement of abdominal needles

Acupoints on the abdomen included points 25 and 28 in the bilateral stomach yangming meridians.

- Stomach-25 is considered the Mu point for the large intestine, meaning that it is key in treating any diseases of this organ. In this case, needle placement there was intended to target fecal incontinence.
- Stomach-28 assists with the goal of treating fecal incontinence.

Points 3, 6, and 9 in the Ren meridian were also utilized. This ‘extraordinary vessel’ is a meridian that travels throughout the midline of the body, and governs the rest of the yin meridians.

- Ren-3 is the Mu point for the bladder, which promotes urinary continence.
- Ren-6 is used for tonification of qi, thereby enhancing the effects of nearby points, and also assists with ailments of the large intestine and bladder.
- Ren-9 is used to treat edema and reduce swelling throughout the body.

![Figure 12. Abdominal needles utilize multiple meridians.](image-url)
4. Placement of lower extremity needles

Acupoints on the lower extremity during this session of treatment included point 6 in the spleen meridian, point 36 in the stomach meridian, and point 3 in the kidney meridian. These were each placed bilaterally.

- Spleen-6 is used for enuresis, which this patient had recently complained of, as well as paralysis of the foot.
- Stomach-36 is targeted here to reduce hemiplegia. It is also an important point for tonifying qi, and promotes general wellness in the body.
- Kidney-3 is important as it is a Yuan-source point for the kidney meridian, and serves to improve all problems of the kidneys, improving other internal organs to a lesser extent. It also tonifies the qi of the kidneys. In this patient, it was mostly directed toward reducing urinary incontinence, and supporting the GFR.
**Recommended Requirements for Future Rotators**

Based on our experiences, we believe that these goals will help future rotating students get the most out of their rotation. Particularly, the case study, as presented above, was especially helpful in understanding some of the more complicated medical decision-making behind needle placement.

Goals include:

- Observe treatment of 8-10 patients per half day
- Assist with 5 cup or needle removals per half day
- Perform 1 cup placement per half day
- Keep log of all procedures performed.
- Keep log of patients, gender, approximate age, chief complaint, and treatment received.
- Compose a case study that describes one patient’s history and acupuncture treatment in detail, similar to above report on Mr. WHG

**Suggested Improvements**

We learned a lot during our time in China, but tried to take note of what we could have done to get even more out of our rotation:

- Consider limiting number of students assigned to acupuncture department to 2. There is very limited space in the clinic.
- Consider enrolling students with some Chinese language skills, as most patients do not speak English. That being said, with an English-speaking preceptor we were able to get a lot out of our clinic days.
- Add a formal lecture at beginning of rotation with information on theory of TCM, location of meridians and acupoints, and techniques for placing and removing cups and needles.
- Observe TCM in other parts of the hospital, e.g. we visited an inpatient ward and the massage department. Could also consider touring an herbal pharmacy.
- Students should bring gloves and hand sanitizer from the US. These items are not available in clinic, but should probably be used for both student and patient safety as there have been reports of blood born pathogen transfer due to acupuncture in the literature.
- Arrange to meet with the students from the Shanghai Jiao Tong University School of Medicine early on in the rotation. We had an informal meeting with the students who had studied abroad in the U.S. (some had been to Ann Arbor!). It was nice to interact with people our own age, compare notes on medical school, and get some good advice on activities and restaurants in the area!
Suggested Readings


Considered by many to be the new standard in the field or the “bible of acupuncture” in Western curricula, this text has the best point references for easy looking up during clinic. However, this is an expensive textbook and is not currently available in the Taubman Medical Library.


A student produced PowerPoint presentation that briefly reviews the current scientific evidence available regarding the efficacy of acupuncture for treatment of chronic lower back pain. (Appendix A)


A fast paced introduction to Chinese culture, helpful for those who have never been to China before. We wished we had read more information like this before we left!


Available from Taubman Medical Library, this is a standard textbook in many acupuncture curricula.


A generalized introduction to acupuncture theory and usage in a Western clinical practice model. Includes information regarding complications and contraindications of acupuncture. Read this before the rotation for a good background on acupuncture before your first day! (Appendix B)


We found this at a large bookstore in China, but it does not appear to be readily available on Amazon.com or at the Taubman Medical Library. Still, this text has good explanations of TCM practices from a Western perspective if you can get a hold of it.


Not available on Amazon, instead borrow from Dr. Wu Ping on first day.
Practical Information

Hospital

Ruijin Hospital and Shanghai Jiao Tong University School of Medicine

Address:
197 Ruijin Er Road
Shanghai, 200025
China

Email: ruijin@rjh.com.cn
Tel: (86) 21 6437 0045
http://www.rjh.com.cn/chpage/c1352/

Contacts

Please note that the surname is listed first in China.

Xu Shuyan
Administrative Assistant
International Affairs Office
Shanghai Jiao Tong University School of Medicine

Address:
227 Chong Qing South Road
Shanghai, 200025
China

Email: kyo0918@hotmail.com
Tel: (86) 21 6384 6590 x776411
Fax: (86) 21 6384 0879
Dr. Wu Ping
International Student Rotation Coordinator
Ruijin Hospital
Email: rjmc@163.com

Dr. Xiang Qiong Yao (Jasmine)
Address Dr. Xiang as “Xiang yi sheng”
Main Preceptor
Acupuncture Department
Shanghai Ruijin Hospital

Address:
197 Ruijin 2 Road
Shanghai, 200025
China

Email: xiangqiongyao@hotmail.com

Biography
Prior – 1993
MD, Shanghai University of Traditional Chinese Medicine
1993 – Present
Acupuncturist, Shanghai Ruijin Hospital

Dr. Xiang originally became interested in acupuncture while in high school, as it represented a combination of two of her interests: Chinese history and medicine. Upon high school graduation, she was accepted for training in this form of medicine at the well-regarded Shanghai TCM University. Since this time, she has worked as an acupuncturist at Ruijin Hospital. She is proficient in English, and has hosted international students from other US medical schools previously, as well as University of Michigan students as of 2011.

Current professional interests include the treatment of musculoskeletal pain and obesity using acupuncture, cupping, and moxibustion.
**Visas/Entry Requirements**

You must have a valid Chinese visa to enter the country. A Tourist “L Visa” is fine. For this type of visa, you need to complete an application and submit a 2 x 2 inch photo as well as a passport that is valid for at least 6 more months. The cost is $130. You are required to apply in person at the nearest embassy, and also pick up the visa in person 4 days later. Chicago is the closest embassy if you live in Ann Arbor. Here is the China Chicago Embassy website with contact information and forms to download: [http://www.chinaconsulatechicago.org/eng/qzhz/qz/grqz/](http://www.chinaconsulatechicago.org/eng/qzhz/qz/grqz/).

Alternatively, you can send your required documents to a visa service center and have them submit your documents in person, for an additional fee. We used Travisa ($50 fee+ shipping costs) successfully. Travisa site: [http://china.travisa.com/VisaInstructions.aspx?CountryID=CN&](http://china.travisa.com/VisaInstructions.aspx?CountryID=CN&)

**Housing**

The Shanghai Jiao Tong University can help you arrange housing at their guesthouse, called the Eryi Hotel. The price is 250 yuan (~ 40 USD)/day per room, and two people can share one room. There are modern bathrooms, refrigerator, water kettle, and TV in each room. Internet is available only by connecting Ethernet cord to wall, but it is slow. The hotel offers laundry service, with rates about 6 yuan (~1 USD)
per item. The Eryi Hotel is a 5 minute walk to Ruijin Hospital. The facilities are similar to a mid-range hotel, see photos below.

We elected to stay in a hostel instead, to save money and to have a more social living experience. The Blue Mountain Youth Hostel - Luwan is 170 yuan (~27 USD)/room/day for a double room and 55 yuan (~9 USD)/room/day for a shared dorm. There is a discount if you have a Hostelling International card. The facilities are basic, but clean. Some rooms do not have windows. The front desk staff speak great English! Free wireless internet is available in the common room, and speed is slow but variable depending on how many people are connected at that time. There is a common kitchen with refrigerator and microwave, and you may order food at the hostel bar. There are two self-service washer and dryers (rare in Shanghai) available for 10 yuan (~1.5 USD) per cycle. It is a 25 minute walk to the hospital and directly across the street from the LuBan Rd. metro station. Hostel website: http://www.bmhostel.com/en/gyls.html
Money
Although some large stores will accept credit cards, most daily purchases are cash only. Both the hospital
guesthouse and The Blue Mountain Youth Hostel required payment in cash. ATMs are located on nearly
every block. There are low to no fees to withdraw money, so this is how we had access to cash. You can
also exchange USD at major banks, such as Bank of China.

Activities

Shopping
- Yuyuan Bazaar
- Digital City
- East Nanjing Rd

Taking in the Scenery
- The Bund
- Pearl Tower
- World Financial Center

Rainy Days
- Shanghai Aquarium
- Shanghai Museum
- Shanghai Science and Technology
  Museum

Weekend Trips
- Hangzhou
- WuZhen
- Suzhou

Longer Trips
- Beijing – The Great Wall

Transportation
There is an extensive, easy to use metro system in Shanghai. The cost per ride is typically 3-4 yuan (~0.5
USD), and at most is 7 yuan (~1 USD) to go to Pudong Airport. You can buy single ride tickets at every
station, or you can get a reusable, rechargeable card for a deposit of 20 yuan (~3 USD). Please know that
subways can be crowded and passengers can be pushy, especially at peak times. Map of metro can be found
here: http://www.exploreshanghai.com/metro/

The bus system is also extensive, and costs only 2 yuan (~0.3 USD). However, the buses can be quite
difficult to navigate if you don’t speak or read Chinese!

In addition, cabs are easy to find and inexpensive. The cost is 12 yuan (~2 USD) for the first 2 kilometers,
and goes up from there. The drivers are generally honest and safe drivers. Be wary of taking taxi’s during rush hour and lunchtime downtown as you may get stuck in a traffic jam.

Lastly, there are clean, wide sidewalks in Shanghai. Be very cautious when crossing the street, especially because motorbikes may not follow the stoplights and cars may not yield to pedestrians, even at crosswalks. If you need to cross a busy street without a signal, the best advice is to walk at a predictable pace. The area around the hospital and hostel is safe, and we felt comfortable walking around nearly anywhere in Shanghai!

Food
You often have a lengthy lunch hour, meaning there is plenty of time to explore the restaurants around the hospital! Here are some recommendations:

- Gii Wontons: Chain restaurant directly across of Ruijin Hospital main entrance. Delicious wontons for 10 yuan (~1.5 USD).
- Liu Liu Mian: Local restaurant at on Jianguo Road between Ruijin Road and Chongqing Road with delicious sweet and spicy pork noodles.
- A Niang: Known all over China for the “huang yu mian” or yellow fish noodle, with pickled vegetables and potatoes in spicy sauce on the side. It is on Sinan Road, just north of the hospital. There is a long wait at lunch time, so get there as early as you can!
- 85 Degrees Café: Chain found all around town with one location one block from Blue Mountain Hostel at corner of Quxi and Dapu Rd. They have awesome bubble tea (try it with red bean on the bottom!) for 6 yuan (~1 USD). There’s also a large selection of pastries and breads. Hint: To order bubble tea, ask for “zhen zhu nha cha”.

Figure 25. Fresh pot stickers (“Jiaozi”) are easily found.

Figure 26. Pork dumplings (“Xiao Long Bao”) around the corner from hospital.
References


“A 45yo construction worker with a 7-year history of intermittent low back pain is seen by his family physician. The pain has gradually increased over the past 4 months, despite pain medications, physical therapy, and two epidural corticosteroid injections. The pain is described as a dull ache in the lumbosacral area with episodic aching in the posterior aspect of both thighs; it worsens with prolonged standing and sitting. He is concerned about losing his job, while at the same time worried that continuing to work could cause further pain. Neuro exam and a straight-leg-raising test are normal. MRI shows evidence of moderate degenerative disk disease at the L4–L5 and L5–S1 levels and a small midline disk herniation at L5–S1 without frank nerve impingement. The patient wonders whether acupuncture would be beneficial and asks for a referral to a licensed acupuncturist.”
Chronic lower back pain affects a large proportion of the population in United States.
70% of people in Western Society will have back pain sometime in their lives.
Low back pain has a significant economic impact on society, both due to treatment expenses as well as loss of productivity.
In 1999 6.8 million U.S. adults had physical disability associated with back pain.
Each year, approximately one third of US adults will visit a complementary and alternative medical (CAM) provider for low back pain.
Most commonly chiropractors, massage therapists, and acupuncturists.

The pathophysiology of back pain is multi-faceted and complex, involving physical, psychological, and behavioral factors.
Existing treatments for chronic low back pain, while effective for some, often fall short of full recovery for many patients.
There is much anecdotal evidence supporting the use of acupuncture, however studies have been slow to provide empirical evidence.
Traditional Chinese Medicine

- Teaches an ancient physiological system in which a vital energy, or *qi*, flows along meridians.
- Blockage of *qi* results in tenderness.
- Acupuncture, when inserted in specific places along the meridians, can restore the proper flow of *qi*.

Western Medicine

- Trying to understand the underlying mechanisms of acupuncture using a western model of medical physiology is difficult.
- We do know:
  - Acupuncture has been shown to release endogenous opioids.
  - In rats, acupuncture causes release of cortisol, leading to systemic anti-inflammatory effects.
  - fMRI studies in humans have shown that acupuncture does affect pain processing areas of the brain.
- Still, there is no unifying explanation for how acupuncture would work, making it hard for Western Medicine to accept that it might work.
German Acupuncture Trials (GERAC) for Chronic Low Back Pain

- 1162 patients with a history of chronic low back pain for a mean of 8 years
- Randomized, Multicenter, Blinded, Parallel-Group Trial With 3 Groups
  - Real Acupuncture -- using principles of Traditional Chinese Medicine.
  - Sham Acupuncture -- superficial needling at nonacupuncture points.
  - Conventional Therapy -- a combination of drugs, physical therapy, and exercise

GERAC - Results

- Primary outcome was a treatment response, defined as either a 33% improvement on the “Von Korff Chronic Pain Grade Scale” or a 12% improvement on the Hannover Functional Ability Questionnaire at 6 months.
- No significant difference between the response rate with real acupuncture (47.6%) and the rate with sham acupuncture (44.2%; P=0.39).
- Both real and sham acupuncture were significantly better than conventional therapy (27.4%; P<0.001 for both comparisons).

<table>
<thead>
<tr>
<th>Treatment Response</th>
<th>Intergroup Difference</th>
<th>P Value</th>
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</thead>
<tbody>
<tr>
<td>Group 1 vs group 3</td>
<td>47.6 (42.4 to 52.9) vs 27.4 (23.0 to 32.1)</td>
<td>20.2 (13.4 to 26.7)</td>
</tr>
<tr>
<td>Group 2 vs group 3</td>
<td>44.2 (39.2 to 49.3) vs 27.4 (23.0 to 32.1)</td>
<td>16.8 (10.1 to 23.4)</td>
</tr>
<tr>
<td>Group 1 vs group 2</td>
<td>47.6 (42.4 to 52.9) vs 44.2 (39.2 to 49.3)</td>
<td>3.4 (-3.7 to 10.3)</td>
</tr>
</tbody>
</table>

*Each group comprised 387 patients. Values are given as percentage of patients (95% confidence interval). Group 1, verum acupuncture; group 2, sham acupuncture; group 3, conventional therapy.
*Unadjusted: Fisher exact test (intention-to-treat analysis).

Cochrane Review (1999):
The Effectiveness of Acupuncture in the Management of Acute and Chronic Low Back Pain

- Systematic review.
- 11 RCT’s were included.
- "methodologic quality was low"
- Conflicting evidence on the effectiveness of acupuncture compared with no treatment.
- "limited evidence" to show acupuncture is NOT more effective than placebo/sham.
- Conclusions: acupuncture not recommended
  - “need for future high-quality RCTs.”

Systematic Review (2008)

- Included 19 trials (including studies published through 2006).
- Compared acupuncture to sham, no treatment, other treatments, or as an adjunctive treatment over a variety of time periods.
- Acupuncture was rarely superior to sham treatment.
- In all trials for virtually all follow-up periods, those receiving adjunctive acupuncture did better than the others.
  - Primary treatments included were exercise, conventional care, physiotherapy, and orthopedic care.
Patient Expectations and Treatment Effects

- Patient expectation regarding treatment benefit was found to be associated significantly with clinical outcome
- Patients with higher expectation ratings for a specific treatment received had a fivefold greater likelihood of substantial improvement.
- Average expectation or general optimism about improvement for a back condition was NOT an important predictor of better functional outcome.

Clinical Use of Acupuncture

- Summary of data:
  - Mixed data regarding efficacy
  - Usually more effective than no treatment
  - May be more useful in patients who specifically expect that acupuncture will help them more than another treatment
- Not a first line treatment
- May be incorporated into a multidisciplinary treatment approach.
Clinical Use of Acupuncture

- Use a licensed acupuncturist.
- Rule out any “red flags”. Patients with serious spinal disease (e.g. cancer or infection) should not receive acupuncture.
- Contraindications: clotting/bleeding disorders and warfarin use, local skin infections or burns.
- Usually a minimum of 12 sessions, if no effect after this initial set of treatments, acupuncture should be discontinued.
- Very few adverse events (< 0.1% of cases) may include pneumothorax, bleeding, needle-site pain, nausea/vomiting, and dizziness or fainting.

Back to Our Case...

- The American College of Physicians and the American Pain Society have issued joint clinical practice guidelines for the treatment of chronic low back pain.
  - Recommend that clinicians consider acupuncture as one possible treatment option for patients who do not respond to self-care.
- Our patient has not responded to several first line treatments.
- He specifically requested acupuncture, and may have high expectations for this treatment (which may perhaps predict a higher treatment response?)
- Final Conclusion: May as well try it! Reassess after 10-12 treatments for efficacy.
Future Studies

- There is still a lot of uncertainty.
- Role of placebo effect?
  - Sham and real acupuncture are equally effective in many studies...is sham acupuncture an appropriate placebo, or are there some benefits to a “light” or “partial depth” acupuncture experience that cannot be separated?
- How to separate psychosocial context of acupuncture (an important principle in Traditional Chinese Medicine) from physiologic benefits (an important principle in Western Medicine)?

References


Acupuncture: A Clinical Review

Victor S. Sierpina, MD, and Moshe A. Frenkel, MD

Abstract: This article summarizes the research base, probable mechanism of actions, and clinical applications of acupuncture. It offers the clinician a deeper understanding of appropriate conditions for which acupuncture may be useful, outlines how to integrate acupuncture into a clinical practice, and describes referral and training issues.

Key Words: acupuncture, alternative therapies, analgesia, traditional Chinese medicine

Acupuncture is among the best known of complementary and alternative therapies. Acupuncture is a treatment method that originated more than 3,000 years ago in China and is practiced in most of the world. The method is commonly practiced as a routine treatment in China, Japan, Korea, and Taiwan, and since the late 1970s has gained popularity in the United States as well as other parts of the Western world.1 Its application in humans and for a wide array of clinical conditions requires explanation. This review will provide the busy clinician with a short summary of the history of acupuncture, models of its imputed mechanism of action, evidence base for effectiveness, and resources for further information about acupuncture. Primarily though, we provide a summary of the kinds of clinical applications for which acupuncture can be considered and a model for how to integrate a referral for acupuncture into the medical setting.

The practice of acupuncture consists of inserting fine, solid needles (usually 32 to 36 gauge) into selected body locations (acupuncture points). Classic texts describe 365 points located in systematic fashion on meridians or “channels of energy flow” that are mapped onto the surface of the body. Key principles in traditional Chinese medicine (TCM) are that both wellness and illness result from an imbalance of yin and yang. Yin refers to the feminine aspect of life: nourishing, lower, cool, deficient, inside, receptive, protective, soft, yielding. Yang is the male counterpoint: hard, dominant, energetic, upper, hot, excessive, outside, creative. The movement between these opposite forces, named Qi, is considered to be the essential element in the healing system of TCM. It is best thought of as energy becoming manifest, a vitalistic force that flows ceaselessly through the meridians, or energy channels of the body.

Although a discussion of the diagnostic and pathophysiologic metaphors of TCM is beyond the scope of this article, suffice it to say that it remains an internally coherent set of correlations based on close clinical observation, which are expressed in symbology existing for millennia. If, to our contemporary minds, such terms may seem quaint, dated, or even naïve, they are highly useful in the context of TCM.

Imbalances in the flow of Qi among the meridians, organs, and five elements is the cause of disease, pain, and susceptibility to illness. Balancing such factors as heat, cold, dampness, dryness, in both exterior and interior domains is done by TCM practitioners as well as medical acupuncturists using needles inserted at key points along these meridians. Other practices included in the TCM system include dietary approaches, herbalism, cupping, moxibustion (the heating of an acupuncture point or needle with a smoldering herb), massage (Tui Na), Tai Chi exercise, and meditation.2– 4

Mechanism of Action

Perhaps the most puzzling aspect of acupuncture to both the lay person and physician with a knowledge of anatomy, neuroanatomy, and physiology is how an unmedicated needle, inserted at a site remote from its desired application can work, eg, a point on the lower leg affecting gastric function, or a point on the hand affecting headache.

Skeptics maintain that acupuncture has basically a placebo effect, since the acupuncture meridians and their “en-
Energy” or “chi (Qi)” as described in TCM cannot be directly observed, dissected, or measured with standard anatomic approaches or physiologic instrumentation. The acupoints are located at sites that have a high density of neurovascular structures and are generally between or at the edges of muscle groups. These locations, curiously, are less painful than random needle sticks into a muscle group. An interesting study demonstrating the map of a meridian pathway involved the injection of Technitium99, a radioactive tracer, into both true and sham acupoints. The scan of the injection sites showed random diffusion of the tracer around the meridian at a rate that was inconsistent with either lymphatic/vascular flow or nerve conduction. Another study demonstrated that needling a point on the lower leg traditionally associated with the eye nerve conduction. Rapid progression of the tracer along the meridian at a rate of adrenocorticotropic hormone (ACTH) have been demonstrated to be elevated after acupuncture treatments, suggesting locically occurring mediators of inflammation. Measurements of adrenocorticotropic hormone (ACTH) have been demonstrated to be elevated after acupuncture treatments, suggesting that adrenalin activation and release of endogenous corticosteroids may also result from acupuncture. Various physics concepts such as quantum physics, electromagnetic force field changes, and wave phenomena have been proffered to explain the nonlocal effects of acupuncture.

Explanation of the TCM system of medicine, including the effects of acupuncture, is rich with metaphor and allegory. Such explanations refer to different kinds of Qi, the influence and interaction of the five elements (fire, earth, metal, water, and wood), yin and yang, and other terminology that requires contemplation and long study of a culturally distinct system. It is a model so different from the standard medical model that we advise Western-trained physicians and students to hold a temporary “suspension of disbelief” to nonjudgmentally approach learning about it as a system of medicine, and, if interested, to review the topic in more depth in some of the references listed. It is probably best to tell patients, students, and colleagues, in answer to the question of how acupuncture works, that the conclusive answer is yet to be determined, though research has given us some windows of insight into possible mechanisms of action.

Scientific Evidence for Clinical Application

Given the popularity and wide usage of acupuncture, patients self-refer to acupuncturists for a variety of indications. Trained physicians need to become familiar with when and how they might refer their patients to an acupuncturist. To inform clinicians and researchers, the National Institutes of Health (NIH) convened a consensus panel to review the available literature about acupuncture. They wished to assess not only clinical efficacy and effectiveness but also biological effects, implications on the healthcare system, and the need for further research. Because much acupuncture research has been done by enthusiastic practitioners rather than trained researchers, the quality of many studies was poor. Because of this, the NIH Consensus Panel concluded that acupuncture was “proven” to be evidence-based for only two indications: dental pain and nausea (postsurgical, chemother-apy induced, or nausea related to pregnancy). Their panel concluded that it was time to take acupuncture seriously and that their systematic review of the literature indicated that it might also be useful for a longer list of indications (see Table 1), but that better-designed studies were needed to confirm its utility in these areas. These include investigations of the basic science of acupuncture and appropriate sham needle approaches for the placebo arm.

Further acupuncture research trials have been funded by the NIH/National Center for Complementary and Alternative Medicine (NCCAM) and other agencies. Examples of recent NCCAM-supported projects include:

<table>
<thead>
<tr>
<th>Table 1. National Institutes of Health Consensus Panel on Acupuncture</th>
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<tr>
<td><strong>Well-demonstrated evidence of effectiveness</strong></td>
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<tr>
<td>Chemotherapy-induced nausea</td>
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<tr>
<td>Dental pain</td>
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<tr>
<td>Nausea of pregnancy</td>
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<td>Postoperative nausea</td>
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From Reference 15.
Studying the safety and effectiveness of acupuncture treatment for osteoarthritis of the knee
Investigating whether electroacupuncture works for chronic pain and inflammation
Finding out how acupuncture affects the nervous system by using magnetic resonance imaging technology
Looking at the effectiveness of acupuncture for treating high blood pressure
Studying the effects of acupuncture on the symptoms of advanced colorectal cancer
Testing the safety and effectiveness of acupuncture

Other organizations have also addressed the potential benefits of acupuncture. Their recommendations are derived by consensus panels as well as current standards of practice and common clinical applications rather than through rigorous, evidence-based review of the literature. The World Health Organization has identified more than 40 medical conditions effectively treated with acupuncture (Table 2). The American Academy of Medical Acupuncture has suggested a listing for use by hospital credentialing committees in which the matter of medical acupuncture privileges are considered (Table 3). Although there is some overlap in these categories, they are by no means identical. It is curious that the NIH consensus panel findings on the efficacy of acupuncture for nausea and vomiting do not appear explicitly in the other lists, emphasizing the rather subjective and consensus nature of these tables of indications.

Overall, in the United States, acute and chronic musculoskeletal indications for acupuncture treatments have found greatest acceptance. Although traditional usage and consensus recommendations encompass many conditions, a number of limitations must be noted. Limited benefit can be expected when using acupuncture for spinal cord injuries, cerebrovascular accidents, neurodegenerative diseases, thalamically mediated pain, severe and chronic inflammatory and immune-mediated disorders, especially those having progressed to requiring corticosteroid usage, or as a primary treatment for human immunodeficiency virus infection, malignancy, or chronic fatigue states. It may, however, serve an important adjunctive role in several of these conditions by improving quality of life, reducing pain, and potentially improving immune status. Acupuncture treatment may be useful in difficult conditions such as asthenic states (“tired all the time,” “low energy”), autonomic dysregulation disorders (anxiety, sleep disturbance, bowel dysfunction), and immune dysregulation disorders (recurrent infections and inflammations).

Practical Implications for Referrals and Follow-Up

In many contemporary acupuncture practices, the most common indication is for chronic pain unresponsive to standard therapy. By and large, physicians will exhaust their range of options for chronic pain management with standard treat-
ments including medication, surgery, nerve blocks, physical therapy, psychologic therapy, pain clinics, or other specialty referrals. Because evidence for the effectiveness of acupuncture in pain management is inconclusive by the standards of best evidence as adopted by the NIH Consensus Panel and others using a purely evidence-based medicine standard, the referring physician often sees it as the last resort for patients. This places the acupuncturist at the unenviable end of a long chain of evaluations, consultations, treatments, and procedures before the patient is finally referred for acupuncture. It also creates an adverse selection bias, leaving acupuncture as an option only for those patients who fail to respond to all other methods, and sometimes creates unrealistic expectations for patients.

A more rational approach would be to recognize the potential role of acupuncture earlier in the treatment of potentially disabling and chronic illnesses. An example would be its use earlier in the treatment of low back pain, perhaps at the critical juncture of between 6 and 8 weeks, when acute back pain often starts to convert to chronic back pain. Starting earlier in the chain of treatment may reduce the cost of expensive evaluations, can lower the burden of patient suffering, and might improve back-to-work statistics. More extensive outcome studies are needed in evaluating the role of acupuncture in low back pain before it can be recommended as the standard of care, though certain patients may clearly benefit.

Because of the popularity of complementary and alternative medicine (CAM)—with estimates of popular use in the US adult population exceeding 40%—physicians ought to expect to receive questions from patients regarding the integration of acupuncture in their health care. On the other hand, the physician can be proactive in searching for other care options when conventional treatments are ineffective or there is a high probability of risk or complications from conventional therapies, for example, possible gastrointestinal side effects from nonsteroidal anti-inflammatory drugs for the chronic pain patient. Given patients’ demands and utilization of CAM therapies, despite the lack of strong evidence, there is an increasing need to address how CAM therapies can be integrated into conventional medical systems.

As a first step in integrating acupuncture into medical care and the referral process, physicians must learn the most common indications (see Tables 1, 2, and 3) or search MEDLINE or other online sources for information (http://cam.utmb.edu). In this search, the physician can look for available studies on safety and efficacy. After assessing the risk compared with the benefit, one can consider the referral. A mutual discussion with patient and family is necessary, along with documentation of such a conversation.

After referring the patient, one has the continuing responsibility of monitoring the patient for benefit, adverse reactions, or failure to respond. If the patient does not respond to treatment in 4 to 10 treatment sessions, he or she should be advised to consider changing to another therapeutic approach (see Figure).

Although busy physicians may not take such a systematic approach, the fact is that most practices have a relatively

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**Table 3. Conditions for which acupuncture may be indicated (American Academy of Medical Acupuncture)**

- Acute and chronic pain control
- Posttraumatic and postoperative ileus
- Muscle spasms, tremors, tics, contractures
- Paresthesias
- Anxiety, fright, panic
- Drug detoxification
- Neuralgias (trigeminal, herpes zoster, postherpetic, other)
- Seventh nerve palsy sequelae of cardiovascular accident (aphasia, hemiplegia)
- Certain functional gastrointestinal disorders (nausea and vomiting, esophageal spasm, hyperacidity, irritable bowel, etc)
- Headache, vertigo (Meniere), tinnitus
- Phantom pain
- Frozen shoulder
- Cervical and lumbar spine syndromes
- Plantar fascitis
- Arthritis/arthrosis
- Bursitis, tendonitis, carpal tunnel syndrome
- Sprains and contusions
- In fractures, assisting in pain control, edema, and enhancing healing process
- Temporomandibular joint derangement, bruxism
- Dysmenorrhea, pelvic pain
- Insomnia
- Anorexia
- Atypical chest pain (negative workup)
- Idiopathic palpitations, sinus tachycardia
- Allergic sinusitis
- Persistent hiccups
- Selected dermatoses (urticaria, pruritus, eczema, psoriasis)
- Constipation, diarrhea
- Urinary incontinence, retention (neurogenic, spastic, adverse drug effect)
- Abdominal distention/flatulence
- Severe hyperthermia
- Cough with contraindications for narcotics
- Acupuncture anesthesia for high-risk patients

*From Reference 19.*
narrow band of indications for acupuncture, for example, chronic musculoskeletal pain, back pain, or headache, which can be mastered rather quickly.

Whenever the conventional standard of care is not effective, acceptable to the patient, or has intolerable side effects, acupuncture may be considered as one option in an integrative care plan. Although not a panacea, it is often an option physicians consider seldom or too late.

Safety and Adverse Effects

As an invasive technique, acupuncture has some risks, which include organ puncture, for example, pneumothorax, cardiac tamponade, damage to neural and vascular structures, infection, metal allergy, local pain, bruising, bleeding, or hematoma formation. Serious injury is extremely rare, given the millions of acupuncture needles placed annually worldwide.

A well-trained practitioner can prevent most such problems. Most of the case reports of adverse infectious effects published in the literature were preventable by using the introduction of safe needle technique with single-use, sterilized, disposable needles, and with such techniques, the risk of cross-transmission of HIV, hepatitis, or other infectious disease can be essentially eliminated. Perhaps the most common potential complication is a mild but alarming syncope or presyncope, the so-called “needle shock reaction,” in which
the patient feels faint and diaphoretic. Removing the needles and administering smelling salts is adequate to terminate this reaction. It is more frequent on the first visit but can be minimized by close observation of the patient and performing the treatment in a recumbent rather than sitting position. Local bruising or hematoma formation may occur, though bleeding is not common with acupuncture. Delaying of conventional diagnosis and treatment when using acupuncture as part of a complete medical system (TCM) is another potential risk, as the diagnostic and therapeutic methods of TCM have not been validated by scientific studies.1

Contraindications

Some patients do not tolerate acupuncture either because of a needle phobia or the inability to remain in a comfortable position for treatment. Septic or extremely weakened patients, those who are uncooperative because of delusions, hallucinations, or paranoia, are likewise unsuitable. Local infections such as cellulitis or loss of skin integrity from burns or ulcerations may preclude certain local treatments. Electroacupuncture should not be applied over the heart or brain or in the region of an implanted electrical device such as a pacemaker or medication pump. Hemophiliacs and others with severe bleeding disorders should be excluded from acupuncture treatment.1

Relative Contraindications

Acupuncture during pregnancy is not contraindicated, but an acupuncturist must be well trained and must avoid using points that can stimulate uterine contractility. In the peripartum period, acupuncture may be desirable for either pain control or stimulation of labor. Acupuncture and acupressure can be useful for nausea during pregnancy without involving such “forbidden” points. Other points such as the umbilicus, nipple, points over major vessels, or over an infant’s fontanelles are likewise “forbidden” by both contemporary and classic acupuncture texts. Acupuncture during menses is relatively contraindicated, as it may not be as effective during this period. Initiating acupuncture while a patient is taking medication, particularly corticosteroids, benzodiazepines, and narcotics, may reduce its effectiveness. Practically speaking, however, many patients come to the acupuncturist while taking these medications and tapering them while acupuncture treatments take effect is the most realistic course. Patients with allergy to metal, patients taking anticoagulant drugs, and those with certain bleeding disorders must be considered on a case-by-case basis.5

The Practitioner and Training

There are approximately 17,000 acupuncturists in the United States, with most having been trained as Oriental Medical Doctors, Doctors of Oriental Medicine, or Licensed Acupuncturists. The National Certification Commission of Acupuncture and Oriental Medicine (NCCAOOM) maintains a database of 13,000 practitioners distributed in every state in the United States who have completed their certification process (http://www.nccaom.com).26 Training here and abroad is usually a 3- to 4-year process, including all aspects of TCM, which includes not only acupuncture but also herbalism, massage, dietary therapy, and exercise programs such as tai chi and qi gong. The herbalism aspect of these programs is intense, since TCM formulas are often a mixture of 9 to 12 herbs and other substances meant to balance the system in a complex way. Most schools provide 500 hours or more of Western medical science focusing primarily on identifying conditions, which need referral to a medical doctor, for example, myocardial infarction, cancer, or significant weight loss. They also teach familiarity with biomedical terminology, the referral and consultation process, and the diagnostic and therapeutic tools of Western physicians.

Physicians may elect a different pathway of acupuncture training. Although weekend courses and CMEs may offer some limited training for physicians, the most long-established course is that offered by the University of California at Los Angeles and the Helms Institute, which includes approximately 300 hours of training in “medical acupuncture.” Nearly 4,000 physicians in the United States have been trained as acupuncturists, and more courses are now available. Because of their medical background, courses designed for these MD or DO physicians are abbreviated from the lengthy TCM training. These medical acupuncture courses do not include learning or prescribing the extensive pharmacopoeia of Chinese medicine. The training is scheduled to accommodate the practicing physician’s needs with an initial introductory weekend, several months of review of books and training videotapes, and a 10-day, intensive seminar on point location and therapeutics. This training is typically aimed at primary care physicians, anesthesiologists, and pain management specialists and is considered adequate by the majority of state medical boards. Despite its shorter period of training compared with other schools of acupuncture, medical practitioners with this degree of training are quite competent to perform safe and effective acupuncture for most indications. Physicians practice acupuncture under the scope of their medical license. They should inform their insurance carrier that they perform acupuncture, though this does not generally involve any change in risk and rate of insurance. The American Academy of Medical Acupuncture (AAMA) is the professional association that supports physicians doing medical acupuncture with CME, research, publications, and lobbying, as some nonphysician acupuncture organizations seek to limit the extent of practice of physicians trained in acupuncture. They also provide a list of physician acupuncturists by region, which is available at (www.medicalacupuncture.org),19 along with pertinent rules and regulations and training information. This organization also sponsors a national certifying board examination for physician acupuncturists.
What the Patient Can Expect

An initial consultation with the medical acupuncture practitioner might not include needle treatment. Depending on the complexity of the problem, this initial consultation may be devoted to history and physical examination and review of the medical records. Additional diagnostic studies such as laboratory or radiologic examinations may be requested. This evaluation is necessary in the Western model to determine the full spectrum of the patient’s treatment options, to confirm preceding diagnostic impressions, and to decide if acupuncture is likely to be helpful in this case. In the case of the Oriental Medical Doctor or Licensed Acupuncturist, the history will include a detailed inquiry into diet and lifestyle and familial and personal factors such as taste, color, and seasonal preferences, not usually included in the routine medical history. The tongue, pulses, and ear will be closely examined in addition to standard physical examination. Chinese herbal mixtures may be offered as part of the treatment plan, and although these are a significant part of classic TCM practice, patients must be aware that contaminants, pharmaceuticals, heavy metals, and other impurities have been reported in Chinese herbs and that standardization and dosage is imprecise and unregulated.27

Patients should inquire into the practitioner’s training, certification by the NCCAOM, state licensure, whether sterile, single-use needles are to be used, and the expected number and cost of treatments. Although some patients are intolerant of needles, most feel little if any discomfort besides a slight aching sensation at the site of insertion. Despite usual apprehension about pain, needle treatments are comfortable and relaxing for most patients. The patient typically lies on an examination or massage-type table while as few as one needle but occasionally up to 30 needles are commonly inserted on the extremities, trunk, ear, or other selected points. These needles are then either manually manipulated, heated with an herb called moxa (Artemisia vulgaris), or stimulated with an electrical device powered by a 9 V battery, similar to a typical transcutaneous electrical nerve stimulation unit. A typical treatment session is 20 to 40 minutes. Some styles of treatment use fewer needles for shorter periods and do not use the electrical stimulation. Imbedded tacks are sometimes left in place for a few days, particularly in the ear. Visits typically start at weekly intervals or more often and as improvement occurs are spaced further apart.

Patients may experience a mild euphoria or drowsiness, especially after the first treatment, and should be advised not to drive or operate machinery immediately after the treatment. Bleeding or bruising, pain on needling, and aggravation of symptoms occur in 1 to 3% of patients. Patients are also advised to avoid strenuous physical activity, heavy meals, alcohol intake, or sexual activity for up to 8 hours after a treatment. This is thought to improve the “take” or effectiveness of the treatment.

Acupuncture costs $50 to 100 per treatment, plus the additional cost of the initial evaluation. For physician acupuncturists, the initial evaluation, not including the acupuncture treatment, can generally be billed as a consultation visit or standard E & M code. Inpatient acupuncture can also be provided as a consultation service.28 A series of 4 to 10 sessions is generally considered an adequate initial trial of therapy. Nonresponders can be referred for other treatment modalities. In the United States, some health maintenance organizations and major insurance plans including Worker’s Compensation do cover acupuncture, but this remains a minority. Medicare and Medicaid do not currently cover acupuncture.

Summary

The ancient method of acupuncture has gained significant popularity in our era, particularly among non-Asian populations. Because of its long history of use, safety, and reports of efficacy, more patients select acupuncture as part of their therapeutic plan. Although thorough clinical trials of the reported benefits of acupuncture as well as understanding of its mechanism of action lag behind its widespread use, physicians ought to become familiar with its potential applications for their patients. Some physicians may wish to expand the scope of his or her practice by taking additional training to administer acupuncture. However, even if one does not add this training, knowing how to refer to credible, well-trained acupuncturists and for what indications is increasingly important in the evolving model of integrative medicine, combining the best of both scientific medicine and traditional systems of care.

References


22. UTMB Alternative and Integrative Health Care Program. Available at: http://cam.utmb.edu.


A pint of sweat, saves a gallon of blood.

—General George S. Patton