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Dear Colleagues and Friends,

It is an honor to have served for the last five years as The American Acupuncturist's managing editor and now move into the role of Editor in Chief. For many years, the journal has been a vehicle for the delivery of essential clinical information and opinion on the many issues impacting the field. I would first like to thank those who have served on the journal staff and editorial board, particularly the reviewers for providing the support and feedback required to find, develop, and publish high-quality articles. Further, I must thank the AAAOM board and membership for their continued involvement and investment in this important project.

Beginning with this volume, we are making significant strategic changes to elevate The American Acupuncturist to the highest standards of peer-reviewed journals. We are moving forward diligently to enact a set of best practices in medical publications. Our first milestone is to meet the “Uniform Requirements for Manuscripts Submitted to Biomedical Journals” developed by the International Committee of Medical Journal Editors (http://www.icmje.org). We are now revising our own author guidelines for conformity to the ICMJE text and will have completed that process by November 1, 2014. For more information on submitting a paper, please visit the journal's guide for authors (aaaomonline.org/?page=authorguidelines) as of that date.

Our second goal is to widen and deepen our readership base. The first element can be realized in part by contributing articles inclusive of both acupuncture and Oriental medicine practices and referencing or comparing them to their corresponding biomedical-treatment practices. Collaborative work and studies undertaken with colleagues in various traditional healthcare fields will most certainly enhance the stature of the acupuncture profession in the eyes of both consumers and mainstream healthcare providers and decision makers. As acupuncture professionals, we are very much riding the wave of a new medical future. We cannot—and should not—squander this opportunity.

To deepen our readership base, our editorial staff and AAAOM members must reach not only across the aisle to our biomedical colleagues, but also further into educational institutions that train and mold the acupuncture professionals of both the immediate and distant future. Those of us who are instructors are natural candidates to pursue this role. Also, the editorial and membership staff will soon turn their attention to the creation and execution of a research-based development strategy that focuses in part on the contributions to our journal that doctoral students are in an ideal position to make by way of capstone publication.

Included in our draft strategic plan for the journal is a multi-point capacity building plan in which our goals are to (1) increase journal membership levels by 15% over the next fiscal year; (2) provide resources to conduct an annual research conference in partnership with our sister organizations; (3) acquire support for journal staff to engage in local training and engagement activities in doctoral educational programs; and (4) evaluate grant funding for acupuncture research and researcher support. For the readers of our journal, carrying out the strategic planning process will have a positive impact. We hope that you will enjoy The American Acupuncturist and learn from it, as in the past, and find it a source of up-to-date and high-quality clinical and professional information.

Now that we’ve begun to change, we will continue to grow. We ask our readers to help us explore new ways to make the journal useful. Please share your ideas and thoughts with us through aa@aaaomonline.org. We look forward to hearing from you soon.

I strongly encourage you to submit your work for publication in The American Acupuncturist and hope that you will enjoy reading the journal and benefit from it at least as much I have. Thank you for your continued support and submissions!

Michael J. Jabbour, MS, LAc, earned his Master's of Science in Acupuncture and Oriental medicine (AOM) from Touro College. In addition to AOM research, AOM educational standards, and Chinese medical-text translation, he has extensive experience in and actively speaks on issues of technology, governance, medicine, and public health. Mr. Jabbour is President Emeritus of the Acupuncture Society of New York and the American Association of Acupuncture and Oriental Medicine (AAAOM) and Chair of the AAAOM Education Committee. He currently maintains a private practice in Forest Hills, New York.
“Do not go where the path may lead,” wrote Emerson. “Go instead where there is no path and leave a trail.”

Emerson is the writer I turn to again and again at critical moments in my life. This particular inspirational thought, dashed off no doubt during one of the author’s prolonged periods of frenzied writing, applies both to me as your new associate editor and to all of you, who are trailblazers working in the sometimes misunderstood and frequently underappreciated medical discipline of acupuncture. And we have teamed up at a decisive time: Three months ago I tossed some clothes and a few professional books into my car and headed north from Atlanta, not knowing exactly where in my native New England I would land or how I would make my living. Thirteen hundred miles and one month later, I found Michael Jabbour, LAc, Editor in Chief of *The American Acupuncturist*—or perhaps he found me—and we are off on a professional journey with some important milestones ahead of us as we stretch our minds and gather our collective wherewithal to reach crucial goals for *The American Acupuncturist* and for the profession as a whole.

I must credit Michael, his unparalleled fortitude and unfailing sense of humor, for bringing this new editorial team up to speed so quickly. Jeremy Parilla, also a new team member, has done real yeoman’s work in copy editing for the fall 2014 issue of *The American Acupuncturist*. With some guidance from *The American Acupuncturist* editorial board and AAAOM staff and volunteers, I have been doing what I do best: taking the job and running with it. For me this means learning, organizing, doing the needful, and reaching out to authors and to advertisers in active-listening mode. It also means editing, editing again, and taking a step back from activity now and then to consider the goals and milestones we will include in our strategic plan for enhancing all aspects of the journal and its readership base. Janet Borges, LAc, practitioner of traditional Chinese medicine in Richmond, Virginia, graciously continues as a key contributing editor to the journal. Melinda Lang, our designer, provides artistic continuity and layout. So if we are a bit late getting re-engaged, the investment in time to put in place a well-working, forward-looking editorial team that has the will to involve the readership of *The American Acupuncturist*, as well as the professional skills to accomplish much for the acupuncture and traditional Oriental medicine professions, will have been worth the wait.

As someone who has successfully received acupuncture treatment for the spine, I found this issue’s slate of articles absorbing. Colette Sitts’s (DAOM, LAc) article, “Chronic Low-Back Pain Successfully Relieved Using Acupuncture: A Case Study,” addresses this all too common affliction that affects almost all Americans at some point in their lives, with 80% of patients achieving substantial relief or complete resolution of the disorder through both alternative and conservative allopathic approaches. Dr. Sitts uses terminology from both traditional Oriental medicine and biomedical medicine, making her fascinating case study accessible to all healthcare practitioners involved in care of the spine.

Michael Fiorani (DAOM, LAc), in tandem with advisor Paul Magarelli (MD, PhD, FACOG), treats the subject of “Acupuncture as Adjunct Therapy for In Vitro Fertilization.” Once again, we have a study of importance as a significant number of American women who have postponed having children until their late thirties and early forties, and some even beyond, have come to rely on IVF procedures. At this stage, achieving successful implantation of eggs in the uterine wall and carrying a fetus to full term becomes increasingly difficult while the body’s natural winding-down process is taking place. This problem can also be exacerbated when patients’ core biological instincts and values-related anxieties come into play. I think you will find the author’s study to be timely, well constructed, and very readable.

In this fall 2014 issue, we also shift tonal registers, take a step back, and look at acupuncture and Oriental medicine as a profession. In an opinion piece, author Steven H. Stumpf (EdD), who has considerable experience in studying the educational practices of the field, and co-author Mary L. Hardy (MD), a botanical and integrative medicine specialist who is board-certified in internal medicine, discuss the issue of “Professional Authority in Healthcare.” Drawing on observations made by Paul Starr in his book *The Social Transformation of American Medicine*, the authors consider the steps that are necessary for the acupuncture and traditional Oriental medicine professions to become recognized on a par with other healthcare professions. They examine the history of the healthcare professions and consider the steps they believe are necessary for acupuncture and Oriental medicine to achieve the “hallmarks of a unified profession.” I expect this piece to elicit some lively discussion of the topic. I also urge you to remember that *The American Acupuncturist* not only invites but also encourages its readers to submit their commentaries and letters to the editor.

From the Associate Editor

Susanne Thomas, PhD
Our fourth article will be no less inviting for stimulating discussion. It is titled “Competency-Based Education in Acupuncture and Oriental Medicine” and authored by Michael J. Jabbour (MS, LAc), Valerie Ruhe (PhD) and Steven H. Stumpf (EdD). This study offers an historical view of education in acupuncture and traditional Oriental medicine, and issues a call to action for the introduction of discrete, standardized competencies into all educational programs in the field at every degree-granting level. In the analysis, the authors propose using established models for building competencies for these disciplines, and they advocate the use of standardized curricular competencies in professional educational programs. This is an intensely written study that discloses the authors’ and contributors’ passion for achieving coherence in curricular development across the nation. They argue persuasively for normative education, which they view as a precedent for income opportunities, patient access, and acceptance of the profession by the general public and regulating authorities at a level equal to that enjoyed by other healthcare professions.

Finally, we have a fascinating informational interview with Don Lee (LAc, DNBAO, AOS, CSCS), President of the AAAOM Board of Directors, on the topic of Gua Sha.

I hope you enjoy this issue of The American Acupuncturist. I look forward to hearing from you personally with your feedback and your suggestions and, of course, to receiving your winter issue article and book review submissions, which we are ready to accept as of November 1 through submit@aaomonline.org.

With best wishes for the coming holidays,

Susanne Thomas, PhD
Associate Editor, The American Acupuncturist

Dr. Susanne Thomas earned her PhD in Modern Languages and Literatures from Emory University. She is an educator, a writer of creative nonfiction, an entrepreneur, and a development and higher education professional.
American Association of Acupuncture and Oriental Medicine

Mission Statement

The American Association of Acupuncture and Oriental Medicine (AAAOM) is a national membership organization of acupuncture and Oriental medicine (AOM) practitioners and supporters that serves to advance the profession and practice of AOM. The mission of the AAAOM is to support our members and the AOM community through education, occupational resources, media support, and legislative advocacy in our commitment to facilitate access to the highest quality of healthcare in the United States.
By Steven H. Stumpf, EdD and Mary L. Hardy, MD

Mary Hardy, MD, board certified in internal medicine and a specialist in botanical and integrative medicine, has actively combined complementary and alternative therapies with traditional Western medicine for more than 25 years in both her clinical practice and research projects. She founded the Integrative Medicine Clinic at Cedars-Sinai. She has worked in clinical and administrative management positions at the Integrative Medicine Health and Wellness Program at the Venice Family Clinic and the Simms/Mann-UCLA Center for Integrative Oncology. As a recognized expert in integrative medicine, Dr. Hardy is a featured conference speaker in her fields of specialty. She is presently working as a consultant for select health organizations involved with wellness, big data technology, and the integration of CAM professions in medicine.

Steven H. Stumpf, EdD, is a Health Professions Educator and Program Evaluator. Dr. Stumpf graduated from UCLA with a doctorate in education, specializing in research methods and program evaluation. His career of more than 30 years has included senior roles across a wide range of fields including telemedicine, health professions education, psychotherapy, program evaluation and acupuncture training. He has published more than 30 articles that reflect his areas of expertise in peer-reviewed journals. Dr. Stumpf, who is based in Los Angeles, currently works as a healthcare consultant in the public and private sectors.

Introduction
The development of the acupuncture and Oriental medicine profession in the United States requires improved social and cultural authority in order to establish professional authority within the modern healthcare landscape. The authority of any healthcare profession is a hallmark of the ability of its professionals to function successfully alongside other healthcare professionals. In his Pulitzer Prize–winning work on the evolution of medicine, *The Social Transformation of American Medicine*, Paul Starr provides important observations that have direct bearing on the field of acupuncture and Oriental medicine. For example, Starr points out that a profession is distinguished from an occupation by “its ability to set its own rules and standards (author’s emphasis). But it cannot do so unless its members agree first, on criteria for belonging to the profession and, second, on what its rules and standards ought to be” (p. 2). When a profession enjoys authority in healthcare, its professionals thrive, and the profession is recognized as an important part of the healthcare system. Professional authority is derived in large part from cultural authority and social authority. The discipline of acupuncture must overcome specific obstacles in order to boost its social and cultural authority and evolve into a professional authority in US healthcare.
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Social and Cultural Authority in Acupuncture

Acupuncturists have sought professional and social authority—that is, the ability to give commands—in medicine. In the narrowest sense, medical authority in medicine is the authority to write orders in a patient chart. In this instance, not every established health profession can “give commands.” For example, nurses, by their own role definition, execute commands. An exception would be nurse practitioners. Physicians, physician assistants, physical therapists, social workers, and other health professionals are permitted to write orders in a medical chart. This is the simplest example of social authority within the community of health care professionals.

The acupuncture profession has not yet achieved social authority. Exceptions may exist where licensees are able to get credentialed in hospitals or clinics and are permitted to chart. The profession has sought to establish itself through cultural authority, namely, through the “construction of reality through definitions of fact and value” (Starr, p. 13). Historically, acupuncture has been organized around strict allegiance to non-Western culture, that is, to traditional Chinese medicine, energetic theory, and an “Americanized version of Chinese medicine.” Acupuncturists are trained in their educational programs to adhere to a strict code that reinforces cultural authority among graduates and practitioners but has limited recognition outside of this community. Until this cultural authority is more widely accepted, income opportunities will remain limited.

According to acupuncture historian Mark Seem, the process of establishing acupuncture was directed by the organization representing training programs. Seem contends that a compromise was sought between factions that differed in whether biomedicine or traditional Chinese medicine should be the underlying basis of acupuncture training. This long-standing factionalism has produced compromised outcomes that have neither unified support nor direction. The struggle to create unity among factions is much like the movement within medicine to standardize licensing laws and establish professional authority. Starr states that the central action that ended the medical profession’s struggle to gain medical authority was the AMA’s decision to stop trying to prevent untrained physicians from practicing medicine. The profession’s decision to no longer vilify competing medical factions and instead include homeopaths and embalmers under state licensing laws initiated the era of medical authority for physicians (Starr, p. 102-103). Accordingly, it is time to end factionalism within the acupuncture profession.

Hallmarks of a Unified Profession

A profession has established itself with professional authority (i.e., one that includes social and cultural authority) when the following circumstances are in place.

- First, professional competencies have emerged from the organization that represents the licensed practitioners. These competencies are

Legal Authority

In medicine, the process of consolidation among professional groups with differing points of view began in 1846 with the establishment of the American Medical Association (AMA) and ended with the largely successful effort to standardize state licensing laws by the Federation of State Medical Boards (established in 1912). Starr emphasizes that the AMA (i.e., the body of medical professionals) led the effort and marshaled resources among differing leadership organizations to collectively establish the authority of the profession. The result was uniform laws and competencies (a concrete and verifiable set of knowledge, skills, and abilities, or KSAs). “The medical profession carried its effort to every state, and its success was a measure of how far it had come since the mid-1800s.” (p. 121).

Educational Authority

In the 1890s, the AMA created the American Association of Medical Colleges (AAMC), which standardized schools and education into the early 1900s. Together, the AMA and AAMC created the environment for elevating licensing requirements by increasing quality and raising standards for training in medical schools. The economic pressure of rising costs to meet licensing standards forced many proprietary schools to commit fraud by misrepresenting their compliance.

Acupuncture schools today are arguably vulnerable to similar criticisms made about private medical schools in 1864: “The physicians who operated the “quick-degree proprietary schools” had, in effect, the same legal authority as the qualified physicians of the university...” (Starr, p. 105). In his description of the evolution of medicine, Starr makes points that have direct bearing on acupuncture. For example, Starr indicates that a profession is distinguished from an occupation by “its ability to set its own rules and standards” (author’s emphasis). But it cannot do so unless its members agree, first on criteria for belonging to the profession and, second, on what its rules and standards ought to be (p. 2). According to Starr, medicine in the mid-19th century was “internally divided [and] incapable of mobilizing its members for collective action or winning over public opinion” (p. 80). Presently, the 46 laws that govern acupuncture in the US vary widely in terms of scope of practice and the definition of acupuncture. This degree of variation is not found in other licensed health professions.

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uniformly agreed upon and formally adopted in by-laws and other declarations of what it means to be a practitioner. Such uniformity is found in medicine, osteopathy, naturopathy, nursing, physical therapy, and the physician assistant profession, among others.

Second, an educational curriculum with minimum standards for training content and practices has been adopted and endorsed by a group that represents the schools or training programs. The curriculum is measured according to standards that comprise the work of an accreditation body that regularly reviews each learning institution. These standards ensure that the quality of training is on a uniform level that can be argued against across all schools. Quality practices and materials are utilized by all schools.

Third, a national examination that must be passed by all program graduates is in place. This examination is taken by all practitioners so they can be compared against their peers, ensuring that only qualified graduates are permitted to apply for licensure. This examination is uniform, fair, and valid because it reflects the same content that is mirrored at each learning institution in each state.

Finally, state laws are largely consistent and uniform, with minor differences between certain states. Every law in every state defines the profession of medicine, chiropractic, and nursing in practically identical language. The goal for acupuncture laws across states should be to describe the same scope of practice with little variation.

In sum, an established health care profession is able to assure the public that a physician in Michigan is essentially the same as a physician in Delaware, possessing the same knowledge, skills, and abilities and the same practice rights and privileges, and subject to the same regulations and laws. Health professions that can set their own rules and standards also possess social and cultural authority. The licensees in these professions are accepted in the community of conventional health care.

The history of medicine as an institution has been mirrored across numerous health care professions. The professions that have achieved professional authority, and the success that comes with this accomplishment, have learned from the trail blazed by medicine.

References

“Health professions that can set their own rules and standards also possess social and cultural authority. The licensees in these professions are accepted in the community of conventional health care.”

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Chronic Low-Back Pain Successfully Relieved Using Acupuncture: A Case Study

By Colette Sitts, DAOM, LAc

Colette Sitts, DAOM, MAOM, Dipl. OM (NCCAOM), LAc, is in private practice in Scappoose, Oregon. She received her DAOM from the Oregon College of Oriental Medicine in Portland, Oregon. She has a general practice with emphasis on chronic-pain management and illness-related lifestyle management.

Abstract

Chronic low-back pain is a common complaint in society today. It is the most prevalent reason for someone to be on permanent disability and its socioeconomic costs are abundant. For a small group of people, ten percent, definitive spine pathologies are found using imaging. For some of this small group, surgery is recommended, and of those who undergo surgery, 46% have unsatisfactory results; these patients end up with long-term post-surgical pain contributing to a disturbed quality of life. Dissatisfied patients look elsewhere for help with their pain, and this often brings them to an acupuncturist. The number-one reason people seek out acupuncture is chronic low-back pain. Acupuncture helps significantly with chronic low-back pain. This case study illustrates the outcome for a 78-year-old male who undertook a four-week course of acupuncture treatments done twice weekly to relieve chronic low-back pain. The outcome for him of complete pain relief through the eighth-week follow-up visit demonstrates the effectiveness of acupuncture in treating chronic low-back pain.

Keywords: low back, pain, chronic, acupuncture

Introduction

Low-back pain—pain in the back region anywhere below the rib area, including the buttocks—is second only to the common cold in terms of the cause of visits to primary-care physicians.¹ Eighty percent of the population in the United States experience low-back
Biomedical Perspective

Nearly ninety percent of low-back pain sufferers have no radiographically discernible cause for their pain. In short, a majority of those with low-back pain have no identifiable biomedical cause.

If no anatomical cause is found, psychological issues, such as depression or prolonged emotional stress, can be the primary factors of chronic low-back pain. Treatment must then be based on symptomatic relief; this usually means pain medications and physical therapy. More often than not, the patient is left with unsatisfactory treatment results, including potentially harmful side effects, such as drug dependence and drug toxicity, leading to decreased quality of life. The majority of chronic low-back pain sufferers do not receive permanent or even long-term relief from their conventional treatments.

Oriental Medicine Perspective

In Oriental medicine theory, the low back is related to the kidney foot shaoyin channel, the bladder foot taiyang channel, the du channel governing vessel, and the penetrating jiling vessel as these traverse the entire lower-back area. Of these, the kidney foot shaoyin and bladder foot taiyang channels are most often involved in chronic low-back pain.

These areas are very susceptible to manifestations of kidney deficiency (essence, qi, yin, and yong), wind—cold—damp, damp—heat in the channels, overexertion, and trauma (qi and blood stagnation). Among these, chronic low-back pain is almost always considered a manifestation of an underlying kidney deficiency, often with complicating factors of cold, damp, or qi and blood stagnation.

Disease has a root or cause (ben) and symptoms or manifestations (lie). Chronic low-back pain due to kidney deficiency is more common in middle-aged and older people, dull and periodic, better with rest, and worse with overexertion. Damp—cold retention pain is worse in the morning and better with mild exercise. It is better with warmth and worse with cold. Qi and blood stagnation have severe stabbing pain that worsens with rest and improves with mild exercise. In chronic low-back pain, this is often due to repeated sprains.

Treatment involves acupuncture, dietary and lifestyle counseling, herbal formulas, and other Oriental medicine modalities (e.g., tai chi, or Asian bodywork) depending on the patient’s needs. Back-pain sufferers are always cautioned to be alert to the development of certain conditions that would require biomedical intervention to prevent further harm, including a sensation of heat or cold in the low back or lower limbs, numbness or tingling in the low back or lower limbs, difficulty walking, severe exacerbation of existing symptoms, or fever.

Many studies have shown that acupuncture is effective for controlling chronic low-back pain. It reduces the pain level and the amount of pain medications needed. Long-term pain reduction is also better for those receiving acupuncture than for those undergoing conventional treatment.

Case Study

History of chief complaint

A 78-year-old male presented with chronic low-back pain of four months’ duration. He could not recall any particular causative incident that preceded the pain. It started slowly, gradually got worse, and severely affected his quality of life. His pain was at best a constant 4/10 on a visual analog scale (0 = no pain; 10 = very severe pain); it periodically reached 6–8/10 for varying lengths of time throughout the day. The pain was deep in the left buttock and spanned the low back from side to side. Often, the buttock pain was the most intense. The pain did not radiate and was worse in the mornings (so bad that he often had to crawl or scoot to the edge of the bed and lower himself to the floor), intense with any low-back movement, slightly better with the application of heat, and worse with the application of cold.

Magnetic resonance imaging, done on the advice of his primary-care provider, showed no definitive pathology. He was told he probably had age-related low-back strain with which he would need to cope. He was advised to take it easy and use over-the-counter pain medications (e.g., ibuprofen). He received no further treatment for his low-back pain from that or any other health care practitioner. The medications provided little relief, at which point he felt that the quality of his life was quite poor. He became very despondent because he could no longer do tai chi, his greatest personal passion. He felt that life was really not worth living. A friend suggested he try acupuncture.

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Chronic Low-Back Pain Successfully Relieved Using Acupuncture: A Case Study

Medical History

The patient was taking chlorthalidone (a diuretic), 25 mg daily; atorvastatin, 30 mg daily; aspirin, 81 mg daily; ibuprofen, as needed; and a daily multivitamin.

He had worked hard physically, as a laborer, all his working life (47 years) and retired several years ago.

He had normal temperature, and he had occasional episodes of dizziness when his low-back pain was severe. He urinated twice per night. His sleep was impaired by his pain and lack of sleep; he felt fatigued most of the time. His state of health often caused him to feel depressed. His diet and lifestyle were moderate; he did not consume caffeine and had never smoked. He drank alcohol once per week.

Objective Findings

The patient's weight, complexion, and color were normal. He was very distracted because of the pain and did not like to make eye contact or talk. His wife did some of the talking for him, commenting that her husband was cheery and outgoing when he was not in pain.

His tongue was pale with tooth marks and a center crack and slightly red on the sides. The sublingual veins were congested. The tongue coat was thin and white, thicker in the middle and greasy at the root. The pulse was overall deep and weak. The left guan was wiry, and the left chi was slightly wiry. The right cun was slightly slippery, and the right chi was thin.

Palpation revealed tenderness deep in the left buttock from Zhibian BL-54 to Huantiao GB-30, on the spine from Yaoyangguan GV-3 to Yabo GV-2 (L-4 to sacral hiatus), and bilateral to the spine from Dachangshu BL-25 to Zhonglushu BL-29 (L-4 to S-3). The patient was experiencing pain at a 7/10 level during the initial intake and was unable to perform a range-of-motion test.

Diagnosis

1) KD essence, qi, and yang deficiency: pale tongue with tooth marks; deep, weak, and thin pulses in the chi positions; low-back pain; nighttime urination; age; depression; and improvement with warmth

2) Qi and blood stagnation: stabbing, intense pain; wiry pulse; and morning exacerbation

3) Shen disturbance: depression; unwillingness to make eye contact or participate in conversation; thin, weak pulses in the chi positions; low-back pain; and age
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Etiology
The primary etiological factor was kidney deficiency, which caused the low back to degrade until it was unable to perform its normal functions. Kidney essence is “the foundation of the body and the root of the mind.” The depletion of his kidney essence disturbed his shen and allowed depression to develop. The patient reported pain reduction from 2/10 to 1/10 after the first treatment, from 4/10 to 2/10 after the second treatment, and from 3/10 to 1/10 after the third treatment.

Results
The patient rated his pain as less severe with each treatment, and the improvements were additive. He stated that his pain considerably lessened after four treatments and was mostly gone after six treatments. At eight weeks, his pain was still gone (he rated his pain as 0/10), and he continued to comfortably practice tai chi daily.

Discussion and Conclusion
The value of this case is the simplicity of the chronic low-back pain uncomplicated by radiating pain or other complaints with a well-defined Oriental medicine diagnosis and concise Oriental medicine treatment plan. The patient’s results directly reflect the effectiveness of the treatments. The pain diminished with each treatment until it disappeared. Four weeks after the treatments stopped, the patient remained pain-free. This indicates that the treatment had a lasting effect.

Chronic low-back pain is the most common reason people seek acupuncture treatment in the United States. Future research could help determine whether certain types of chronic low-back pain respond more favorably than others to acupuncture. Also of interest would be a comparison of different acupuncture styles to treat chronic low-back pain.

The style used here, distal needling, is particularly suitable for easy clinical settings as the needles can quickly be inserted into easily accessed points, even in a sitting position.

References
Abstract

Objective: To review the mechanisms and published clinical trials supporting the use of acupuncture as an adjunct therapy for in vitro fertilization (IVF)

Design: A search of MEDLINE, PubMed, and publicly available research data was performed to select articles for inclusion. Search results were cross-referenced with acupuncture textbooks to identify relevant articles.

Result(s): An increasing number of published scientific studies have shown that acupuncture positively impacts fertility and IVF success rates. Possible mechanisms influencing the impacts could be: (1) changes in the menstrual cycle (through the secretion of β-endorphins, which affect gonadotropin secretion by their action on the gonadotropin-releasing hormone [GnRH]); (2) alteration of uterine and ovarian blood flow; (3) secreting cytokines; and (4) relief of depression, anxiety, and stress. Various retrospective and randomized controlled trials have found that acupuncture has a statistically significant positive impact on IVF success rates, including implantation, pregnancy, and live birth rates, while reducing the number of miscarriages and ectopic pregnancies.

Conclusions: With the increasing body of evidence-based literature demonstrating mechanistic processes and clinical results, acupuncture should be considered as a viable adjunct therapy for IVF.
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**Keywords:** acupuncture, infertility, in vitro fertilization (IVF), complementary alternative medicine (CAM), IVF success rates, including the rates of pregnancies, births, miscarriages, and ectopic pregnancies.

**Acupuncture Mechanisms That Potentially Impact IVF Success Rates**

The use of acupuncture for infertility as an adjunct therapy to conventional treatment had already been explored in the early 1980s, with randomized clinical trials with “acupuncture” in the title identifying over 3000–5000 citations. Extensive scientific research over the last two decades has continued to increase. PubMed searches using the term “acupuncture” and almost 1,500 randomized controlled trials with “acupuncture” in the title.1

Acupuncture is the stimulation of specific points on the body by inserting very fine sterile metallic needles. According to TCM, these points are based on thousands of years of clinical experience. Current research shows that many acupuncture points are located at transition points or boundaries between different body domains or muscles, coinciding with connective tissue planes. These gap junctions have a high electric conductance and density.2

The National Institutes of Health and the World Health Organization have recognized the use of acupuncture in the treatment of a wide range of common illnesses, including musculoskeletal, mental and emotional, gastrointestinal, reproductive, neurological, and respiratory disorders and disorders of the eyes, ears, nose, and mouth.3

Acupuncture Mechanisms That Potentially Impact IVF Success Rates

The potential mechanisms of acupuncture that have been suggested to impact fertility and IVF success rates are the influence of acupuncture on the hypothalamus-pituitary-gonadal (HPG) and adrenal (HPA) axes; uterine and ovarian blood flow; immune factors, especially cytokines; and stress, anxiety, and depression.4 These potential mechanisms help explain how they may impact IVF success rates, including the rates of pregnancies, births, miscarriages, and ectopic pregnancies.

**HPG and HPA Axes**

One of the most important functions of the HPG axis is to regulate reproduction by controlling the uterine and ovarian cycles,5 which may be the most important key to acupuncture and fertility. Although the mechanism of acupuncture in the treatment of female infertility is not yet known, it is believed to involve the central stimulation of endogenous opioid peptides, particularly the secretion of β-endorphins.6 This secretion influences the GnRH pulse generator and thereby influences gonadotropin and steroid secretion.7 8 10 Because these neuropeptides influence gonadotropin secretion through their action on GnRH, Chang et al. concluded it is logical to hypothesize that acupuncture may impact the menstrual cycle through these neuropeptides.9 11

Cho et al. demonstrated a correlation between brain activation and specific acupuncture point stimulation.12 This supports the possibility that acupuncture first stimulates or activates the corresponding brain cortex via the central nervous system (CNS), thereby controlling the chemical or hormone release by the way of the CNS to the diseased or disordered organs for treatment using functional magnetic resonance imaging (fMRI). fMRI is an MRI procedure that measures brain activity by detecting associated changes in blood flow. This demonstrates increased blood flow to a region when an area of the brain is in use. Zhang et al. suggested that the functional activity of certain brain areas may be correlated with the effect of acupuncture.13 14 Chen15 and Chen and Yu16 demonstrated the potential impact of acupuncture on the hypothalamic-pituitary-ovarian axis and on the uterus, attributing an inhibition of hyperactivity in the sympathetic nervous system. In addition, Steiner-Victorin et al. studied the neuroendocrine and endocrine parameters indicative of preeclamptic or hypertensive pregnancy.17 This study found significant reduction in luteinizing hormone (LH) / follicle-stimulating hormone (FSH) ratios, mean testosterone concentrations, and β-endorphin concentrations with electro-acupuncture (EA). However, Steiner-Victorin18 explained that the mechanisms behind the beneficial effect of acupuncture on humans are difficult to study because tissue samples from the ovaries and the CNS are, for obvious reasons, unobtainable. Furthermore, neuropeptides in the gonads and the CNS could be studied in an animal model, provided that such a model exists.

A direct response from the stimulation of points such as SP-6 (sanyinjiao) and lower abdominal points may influence ovarian and uterine function19 as well as the hypothalamic-pituitary-ovarian axis function, normalizing the secretion of hormones, notably of GnRH and LH.20 Westergaard et al.21 suggested that acupuncture...
Acupuncture as Adjunct Therapy for In Vitro Fertilization

According to Stener-Victorin et al., optimal endometrial receptivity occurs when the uterine artery vascular impedance is less than three on the pulsation index (an impedance unit). This study showed that acupuncture is extremely effective in lowering the pulsation index and increasing blood flow to the ovarian and uterine arteries, thus thickening the endometrium and making it more receptive to the transferred embryo. This appears to be a response to a reduction in sympathetic nervous tone induced by acupuncture.

Another potential role of acupuncture in the enhancement of uterine receptivity is through uterine quiescence and motility. Ayoubi et al. concluded that high uterine contraction frequency in IVF at the time of embryo transfer results from the delayed establishment of uterine quiescence after ovulation in IVF as compared with the menstrual cycle. In IVF, low uterine contraction frequency six days after the injection of human chorionic gonadotropin may contribute to the higher pregnancy rates observed with blastocyst transfers. Kim et al. found significantly reduced uterine motility in pregnant rats by stimulating LI-4 (hegu) by inhibiting the expression of the COX-2 enzyme in the endometria and myometria.
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Cytokines
The role of cytokines in human reproduction has been increasing in focus on the immune etiology for reproductive failures. A growing body of available published literature continues to demonstrate the positive influence of acupuncture on IVF success rates, including the rates of pregnancies, births, miscarriages, and ectopic pregnancies. Table 1 summarizes seven retrospective, randomized, and/or controlled studies that demonstrate the improvement of IVF success rates with acupuncture.

Depression, Anxiety, and Stress
Because infertility can cause stress, which leads to a release of stress hormones, stress reduction might improve fertility. Domar et al. found that the subgroup with a female indication for IVF demonstrated increased depressive symptomatology. This was correlated with increased expression of negative emotions and was associated with lower pregnancy rates. Significantly lower success rates for IVF have also been found in depressed women (versus non-depressed women). Smeenk et al. concluded that pre-existing psychological factors are independently related to the treatment outcomes of IVF / intracytoplasmic sperm injection (ICSI) and should therefore be taken into account in in-patient counseling. Furthermore, state anxiety was found to have a slightly stronger correlation with treatment outcomes than depression. This data was also in agreement with that of a previous study, which found that state anxiety, not trait anxiety, affects ART outcomes. Demyttenaere et al. demonstrated that pre-existing psychological factors are independently related to the treatment outcomes of IVF / ICSI and should therefore be taken into account in in-patient counseling. Cugier et al. also found that women with episodic anxiety, but not those with high levels of trait or acute anxiety, were less likely to become pregnant after the second IVF/ICSI. Psychic and counseling interventions significantly decrease emotional distress and increase the chances of pregnancy. This demonstrates a correlation between emotional status and IVF pregnancy rates. Domar et al., Dong, and MacPherson et al. demonstrated the perceived reduction of stress and anxiety in patients with acupuncture, possibly through its sympathoinhibitory property and impact on ß-endorphin levels. Middelkauff found that sympathetic activation during acute mental stress is eliminated after acupuncture. Various studies, including Gallagher et al. and Han et al., have shown that acupuncture for the treatment of depression is comparable to validated medical treatments, such as medication. Verhaak et al. reported that differences in emotional status between pregnant and nonpregnant women are present before treatment and become more apparent after the first IVF and ICSI cycle. Women who become pregnant show lower levels of depression than those who do not. In a case series study by Johnson, patients who had experienced previous IVF cycles commented on how much more relaxed they were in the acupuncture-supported cycle. Similarly, Smith et al. reported that the most frequently reported side effects of acupuncture treatments are relaxation, feeling calm and peaceful, and feeling energized.

Finally, Magarelli, Cindemann, and Cohen investigated whether changes in stress hormones serum cortisol (CORT) and prolactin (PRL) influence reproductive outcomes (i.e., pregnancy rates) in IVF patients treated with acupuncture. Results showed that the CORT levels in the acupuncture group were significantly higher on IVF medication days 7, 8, 9, 11, 12, and 13 than the controls. PRL levels in the acupuncture group were significantly higher on IVF medication days 5, 6, 7, and 8 than those of the controls. They concluded that there appeared to be a beneficial regulation of CORT and PRL in the acupuncture group during the medication phase of the IVF treatment, with a trend toward more normal fertile cycle dynamics.

Acupuncture as Adjunct Therapy for IVF
A growing body of available published literature continues to demonstrate the positive influence of acupuncture on IVF success rates, including the rates of pregnancies, births, miscarriages, and ectopic pregnancies. Table 1 summarizes seven retrospective, randomized, and/or controlled studies that demonstrate the improvement of IVF success rates with acupuncture.
Acupuncture as Adjunct Therapy for In Vitro Fertilization

Table 1: Summary of retrospective, randomized and/or controlled studies demonstrating acupuncture as an adjunct therapy for IVF

<table>
<thead>
<tr>
<th>Author, Year</th>
<th>Intervention</th>
<th>Treatment</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kong et al, 2009**</td>
<td>TCA + EA (n=22)</td>
<td>First control: TCA only (n=14)</td>
<td>TCA and EA significantly higher clinical PR (33% vs 15% vs 21%)<em>, biochemical PR (35.3% vs 16.5%), implantation rate (14.2% vs 5.9%), and ongoing PR (28.4% vs 13.3%)</em> in Acu vs placebo.</td>
</tr>
<tr>
<td>Magarelli, Cridennda, and Cohen, 2004</td>
<td>EA and MA</td>
<td>Two tx 30 min and 3 days after ET</td>
<td>Higher clinical PR (42.5% vs 26.3%)* in Acu group vs control.</td>
</tr>
<tr>
<td>Dieterle et al, 2006</td>
<td>Acu (n=116)</td>
<td>Control: placebo; Acu (sham pts) (n=109)</td>
<td>Significantly higher clinical PR (33.6% vs 13.6%)<em>, biochemical PR (35.3% vs 16.5%), implantation rate (14.2% vs 5.9%), and ongoing PR (28.4% vs 13.3%)</em> in Acu vs placebo.</td>
</tr>
<tr>
<td>Paulus et al, 2002</td>
<td>Acu (n=80)</td>
<td>Control: No Acu (n=80)</td>
<td>PR significantly increased Acu vs Non-Acu group (51% vs 35%)*.</td>
</tr>
<tr>
<td>Stener-Victorin et al, 1999</td>
<td>Acu + PCB (n=75)</td>
<td>Control: alfentanil + PCB (n=75)</td>
<td>EA and MA one tx 30 min before and up until the end of OA; per ET in Acu group vs control.</td>
</tr>
<tr>
<td>Westergaard et al, 2006</td>
<td>Acu-1 tx (n=95)</td>
<td>Acu-2 tx (n=91)</td>
<td>Significantly higher clinical and ongoing PR (39% vs 26% and 36% vs 22%)* in Acu-1 group vs control.</td>
</tr>
<tr>
<td>Victorin et al, 1999</td>
<td>Acu (n=116)</td>
<td>Control: No Acu (n=114)</td>
<td>Significantly higher clinical and ongoing PR (33% vs 15% vs 21%)* in Acu-2 group vs control.</td>
</tr>
<tr>
<td>Stener-Victorin, 2002</td>
<td>Acu (n=83)</td>
<td>Control: alfentanil + PCB (n=75)</td>
<td>Higher clinical PR (42.5% vs 26.3%)* in Acu group vs control.</td>
</tr>
<tr>
<td>Victorin et al, 2002</td>
<td>Acu (n=53)</td>
<td>Control: placebo</td>
<td>Pre/Post ET protocols; significantly improved Acu to Non-Acu group (51% vs 35%)*.</td>
</tr>
</tbody>
</table>

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Acupuncture, Avg=average, BR=birth rates, EA=electroacupuncture, ET=embryo transfer, IVF=in vitro fertilization, MA=manual acupuncture, OA=oocyte aspiration, PCB=paracervical block, PR=pronounced rate, RCT=randomized controlled trial, RS=retrospective trial, RT=randomized trial, SAB=spontaneous abortion rate, TCA=traditional Chinese acupuncture, TCM=traditional Chinese medicine, Tx=treatment

*Significant to at least P<.05
Acupuncture has demonstrated a statistically significant (p<.05) increase in birth rates (BR) along with a decrease in miscarriage rates (SAB) and ectopic pregnancies among IVF patients. A study of 131 women with poor prognosis found no significant difference in PR between the Acu (n=48) and non-Acu groups (n=83) (50% vs. 45%). However, the Acu group demonstrated statistical significance in SAB (8% vs. 14%), ectopic pregnancies (0% vs. 9%), and BR (21% vs. 16%). In a similar study, this time with good-prognosis patients, the Acu group (n=53), compared with the non-Acu group (n=61), demonstrated significant improvement in PR (51% vs. 36%), SAB (8% vs. 20%), and ectopic pregnancies (0% vs. 9%) (p < 0.008). The Acu group had a 23% increase in BR. Finally, Stener-Victorin et al. found that the Acu group (n=75) had significantly higher implantation rates (27.2% vs. 16.3%) and BR (41% vs. 19.4%) than the non-Acu group (n=73).

Discussion
The results of these studies are promising, but it is important to note that acupuncture protocols generally do not reflect TCM clinical practice. In many of the summarized published studies, very few acupuncture treatments, often fewer than three, were performed. Out of the seven summarized studies, the most recent did not follow a fixed protocol. The patients were administered acupuncture in which three to five points were chosen depending on TCM clinical symptoms and pattern diagnosis. Furthermore, the patients were required to have a minimum of 12 treatments, almost half of them receiving more than 13 treatments, a stark contrast from those in the majority of the other studies. Kong and Hughes demonstrated significantly higher IVF success rates than those in the studies with fixed protocols and limited treatments.

According to TCM, one course of treatment for female infertility is based on ancient medical theory, an increasing number of publications demonstrating clinical efficacy. Although acupuncture has continued to increase in popularity through evidence-based treatments, it is necessary for future clinical trials to be true to TCM principles and clinical practice. Acupuncture treatments are based on TCM-specific principles and clinical practice. Acupuncture treatments are based on TCM-specific principles and clinical practice. Acupuncture treatments are based on TCM-specific principles and clinical practice. Acupuncture treatments are based on TCM-specific principles and clinical practice. Acupuncture treatments are based on TCM-specific principles and clinical practice. Acupuncture treatments are based on TCM-specific principles and clinical practice. Acupuncture treatments are based on TCM-specific principles and clinical practice. Acupuncture treatments are based on TCM-specific principles and clinical practice.

In addition, many of these protocols involve a questionable choice of acupuncture points and techniques, and a lack thereof for the sake of controlled clinical trials in a medical setting. For example, Westergaard et al. concluded that repeating acupuncture two days after embryo transfer provides no additional benefit. In fact, the control group (Acu2) that received additional acupuncture two days later had a higher (albeit not significantly) early-pregnancy loss than the acupuncture group (Acu1) and the non-Acu group (33% vs. 15% vs. 21%). However, it is important to note that the protocol administered two days after embryo transfer contained two points, LI-4 (lipa) and SP-6 (sanyinjiao), which are contraindicated in pregnancy and may therefore be unsuitable after embryo transfer.

It is necessary for future clinical trials to be true to TCM principles and clinical practice to evaluate the potential greater impact of acupuncture on infertility and IVF success rates. However, it is promising that following even a fixed protocol produces positive results.

Conclusion
The use of acupuncture for infertility as an adjunct therapy to conventional treatment in ART (mainly as an adjunct to IVF) has continued to increase in popularity through evidence-based publications demonstrating clinical efficacy. Although acupuncture is based on ancient medical theory, an increasing number of published scientific studies show that acupuncture positively impacts fertility and IVF success rates due to possible mechanisms influencing the menstrual cycle through ß-endorphin secretion, affecting gonadotropin secretion through their action on GnRH. These possible mechanisms also impact uterine and ovarian blood flow; cytokines; and depression, anxiety, and stress. Retrospective and randomized controlled trials have found that acupuncture has a statistically significant positive impact on IVF success rates, including implantation, pregnancy, and live birth rates, while reducing the number of miscarriages and ectopic pregnancies.

Current scientific data and clinical trials are promising. They show the value and effectiveness of acupuncture as an adjunct therapy for IVF. However, it is necessary for future clinical trials not only to further examine the mechanistic processes involved but also to follow TCM principles and clinical practice to evaluate the true potential impact on IVF success rates. With the increasing body of evidence-based literature demonstrating mechanistic processes and...
Clinical results, acupuncture should be considered as a viable and recommended therapy.

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References


Background and Purpose

Healthcare professions once regarded as providing alternative and complementary care, including acupuncture, are now frequently integrated into mainstream medicine. In order to meet this call for inclusion, training in acupuncture and Oriental medicine must be based on competencies aligned with current standards within mainstream health professions. “Competencies” and “competency models” refer to how the knowledge, skills, and abilities required by these standards are structured. This paper reviews how competencies are developed, structured, and used in planning curricula and measuring student-learning outcomes. It also explores the impact of competencies on the profession and on educational institutions.

The American Association of Acupuncture and Oriental Medicine (AAAOM) and its affiliate organizations have actively discussed the issue of professional competencies since 2009, when first professional doctorate (FPD) standards and revised master’s standards were also being actively discussed throughout the profession. The AAAOM took an active role in the exploration and formation of a unified competency model for the field. To best inform this work, a profession-wide survey, the largest and most robust completed in the field to date, was launched in 2012. This survey, administered by the AAAOM with the assistance of many other organizations, evaluated a set of key topics, including degree consolidation, titling, and educational reform. The results of this survey, as well as an extensive literature review, subject matter expert interviews, community discussions, strategic planning, analysis, and evaluation, facilitated the development of the proposed competencies and competency models presented in this study.
The Affordable Care Act Opens the Door to Reimbursement for Acupuncturists

The Affordable Care Act (ACA) requires all insurance plans, including state Medicaid plans, to offer a comprehensive package of services equal in scope to the benefits of a typical employer plan. This is the Essential Health Benefits (EHB) provision. Acupuncture services may be included in several of 10 eligible categories, with reimbursement rates established by each insurance plan when approved by individual states. With the implementation of the EHB program, nearly 54 million residents gained access to insurance coverage for acupuncture beginning in 2014. The introduction of near-universal access to acupuncture through government-funded healthcare is a significant milestone for the profession.

Three sequential competency models have been proposed:
- Master in Acupuncture and Oriental Medicine (ACAOM)
- Doctorate in Acupuncture and Oriental Medicine (ACAOM)
- Doctorate in Acupuncture and Oriental Medicine (Professional), and Doctorate in Acupuncture and Oriental Medicine (Research). A professional career lattice should correspond to these three levels. As with the competencies, the lattice is sequentially progressive, each successive level requiring greater skills and responsibilities. Within the models, strategies are offered to guide the development of competency-based educational programs. The first focal point of this analysis is discussion of accreditation examining all the advantages of adopting competency models. A thorough understanding of competency-based educational terms and concepts is included in Appendix 1.

Methodology

This study covers current books, papers, and research articles on medical education competencies in the United States. Secondary focal points are educational assessment, psychometrics, comparable competency models in the United States, and medical education competencies outside the United States. Materials published between 2008 and 2013 were researched in PubMed/MEDLINE, Education Resources Information Center, PsycINFO, Web of Science (Social Sciences Citation Index), and Google Scholar. The criteria for selecting references were usefulness in answering the research questions, clarifying important issues, defining terms, and informing community stakeholders. This review includes the latest updates (e.g., ACGME Next Accreditation System). More than 500 references were examined for their unique purposes, i.e., program evaluation and exam preparation. The sequential competencies are offered to guide educational institutions in the transition to competency-based educational programs. The final focal point of this analysis is discussion of accreditation examining all the advantages of adopting competency models. A thorough understanding of competency-based educational terms and concepts is included in Appendix 1.

Competencies

Origins of Competency Structure

The concept of competency models belongs to the science of measurement. It derives from the process by which psychological tests and opinion surveys were developed in the late 1800s. In the early 1900s, Thorndike proposed that educational and learning objectives be written as discrete, specific statements. This fundamental hierarchical structure for writing tests, surveys, and job competencies is still used today.

What Are Competencies?

Competencies are the knowledge, skills, and abilities (KSAs) needed to succeed in professional roles. They are the traits or characteristics needed for successful job performance. Competencies define proficient performance of critical work functions in defined work situations.
Competency-based education in Acupuncture and Oriental Medicine

Benefits of Competency-Based Medical Education

Competencies drive training, which creates professionals that can be relied upon to behave and perform similarly across states and national borders. Competencies created and adopted by practicing professionals provide the basis for a profession to regulate itself, which is an ethical necessity related to public concern about patient safety and the increasing complexities of practice.

Once competencies are defined, didactic and clinical training can be targeted, especially for the inter-professional medical competencies currently used to guide training for physicians, nurses, physician assistants, and physical therapists. "Patient safety is a current public and healthcare concern," and inter-professional collaboration can reduce medical errors and limit adverse effects while improving patient safety.67

Establishing curricula that are based on professional competencies is an acknowledgment that KSAs constitute an important base by which health profession students become competent clinicians. Effective education in practical skills beneficially alters clinician behavior, positively influences patient outcomes, and reduces the risk of patient harm.68 Professional competencies enhance credibility and increase public support at a time when demand for the accountability of the medical profession is mounting.69 Graduates of nationally recognized competency-based educational programs in acupuncture and Oriental medicine may work as additional healthcare providers, thereby reducing reliance on overworked physicians who are currently subjected to "time-based training."70

Draft AOM Competency Model

The current training model in the acupuncture profession has five tiers: a Master's Degree in Acupuncture, a Master's Degree in Acupuncture and Oriental Medicine, a First Professional Doctorate in Acupuncture and Oriental Medicine, a Research Doctorate in Acupuncture, and a Research Doctorate of Acupuncture and Oriental Medicine.

Migrating Existing AOM Competencies to a Professional Competency Model

The AAAOM Education Committee and third-party subject matter experts analyzed the competencies used by ACAOM and NCCAOM to form the basis for a draft unified competency model.71 The AAAOM has also reviewed the ACGME and WHO standards along with other relevant sources for competency-based healthcare profession education. Appropriate competencies and models from the American Osteopathic Association are included, particularly the inter-professional collaboration and biomedical competencies models. The source competency models were coded and provided for reference in the appendices.

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Competency Models

A competency model is a descriptive tool that helps an organization or profession meet its strategic objectives. Competent performance occurs when an individual achieves or produces some result or output at a defined, measurable standard of quality. By creating causal links between precisely defined behaviors and success, competent performance can be defined in their roles, broadly recognized as a healthcare provider’s expected behavior. A competency model includes professional roles, core and specific competencies, and enabling competencies. Competencies may include statements of values, personality traits, attitudes, emotions, and aptitudes because although these may be innate characteristics, they can still be influenced by training.

Most medical competency models are structured as a list, with detailed statements of KSAs organized into domains. The job or degree is at the top, followed by the domains (major categories), in turn followed by the sub-competencies (minor categories). The American Council on Graduate Medical Education’s (ACGME) competency model for physician training has six general areas of equal importance, referred to as “domains.” These are the core competency domains, together with principles and practices, for the profession:

- Patient care
- Medical knowledge
- Practice-based learning and improvement
- Systems-based practice
- Professionalism
- Interpersonal skills and communication

Osteopathy provides an important model for acupuncture. Osteopathy covers the physician competencies plus osteopathic principles and practices. Apart from these additional principles, the two lists of domains are identical. Competency domains are standard for osteopathy curricula, reflecting changes in the public’s view of osteopaths as mainstream providers. Recent additions to osteopathy competencies have included knowledge and abilities related to cultural competency, skills in counseling for health promotion / disease prevention, knowledge of public health systems, and knowledge of global health. Inter-professional collaboration competencies are being added in response to the changing contexts of practice.

A helpful model based on the six domains is described by Canadian physicians association’s updated CanMEDS framework. The updated 2005 CanMEDS model is structured as a mandala with seven professional roles that define the physician (Figure 1).

Figure 1. Canadian Physicians Association’s Updated CanMEDS Framework

The seven professional roles intersect and overlap. Each role has its own set of key competencies (general professional categories) and enabling competencies (specific KSA statements grouped under the appropriate key competencies). The CanMEDS competencies have been adopted outside of medical education. For example, the model has been used to develop an essential competency profile for physiotherapists in Canada.

Competency Development

Drafting Competencies

Writing competencies typically involves complementary activities: (1) gathering information from job analyses, literature reviews, interviews, and focus groups; (2) using scientific methods of measurement and outcome-articulated procedures; and (3) collaborating with key stakeholders. Maintaining boundaries between these approaches is critical to ensuring a well-designed, unbiased, and comprehensive analysis. A commitment to (and balance between) both scientific and participatory or collaborative processes is crucial.

A scientific approach to writing competencies is described by Klass. The first step is to name and define the terminus for the occupation (e.g., a Doctorate in Acupuncture and Oriental Medicine). The second step is to distinguish this construct from similar constructs, such as masters and other doctoral degrees. For example, a PhD includes all the KSAs of a master’s degree
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In Figure 2, the nine competency domains overlap and are therefore called “facets.” This feature of the model, taken from Messick’s framework of test validity, is important because any one item could conceivably be placed in more than one facet. Therefore, there is a need to eliminate redundant items, and there is less need for debate over which “facet” any particular item should be placed in. When items are imported from existing models, similar items are imported into more than one facet and need to be flagged for redundancy and reworded or deleted. To build consensus, stakeholders should be reminded that items may fit into more than one facet.
Flexible scale. Each item is rated as performed “a lot of the time,” “some of the time,” or “very little / none of the time.” The CLCF document includes checklists that can be used to compare residents’ progress and facilitate the transition to clinical practice after graduation.

Assessing Validity and Reliability

Validity and Reliability in Competency Models

Assessing Validity and Reliability

Competencies are based on constructs, that is, ideas about what composes any given KSA. How can we be confident we have described a valid competency? The first step is to draft competencies with expert stakeholders. Drafting through group collaboration ensures a form of content validity achieved when experts match KSAs to the domains. The next step is to test the model scientifically. Forms of validity verification include evaluations of construct validity (e.g., concurrent measures of the same domain) and criterion validity (e.g., predictive measures, such as workforce outcomes).

Like multiple-choice tests and opinion surveys, job competencies may be validated through statistical analysis (e.g., multi-trait, multi-method, or factor analysis). Validity demonstrates the extent to which an item captures the construct accurately. Validity is a measure of truth; it answers “are we measuring what we think we are measuring?” It is often assessed through multiple measures that are “triangulated” to fix on one point. On the other hand, reliability is the extent to which each item consistently measures the same construct repeatedly across all students. Reliability answers the question, “Are we measuring the same thing consistently?” It is possible to have reliability without validity—it is possible to measure the same thing consistently and still be measuring the wrong thing—but one cannot have validity without reliability.

Competency models have greater validity when the lists and items provide complete content coverage, when items are placed in their appropriate domains, and when items are written clearly and simply so that each measures only one thing. A perfect assessment...
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### Table 1: Comparison Of Four Health Profession Essentials

<table>
<thead>
<tr>
<th>PROFESSION</th>
<th>Uniform KSAs</th>
<th>Educational Conformity</th>
<th>National Practice Definition</th>
<th>National Scope of Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicine</td>
<td>1880s</td>
<td>1896</td>
<td>1920s</td>
<td>1920s</td>
</tr>
<tr>
<td>Nursing</td>
<td>1917</td>
<td>1912–1952</td>
<td>1955</td>
<td>1972</td>
</tr>
<tr>
<td>Chiropractic</td>
<td>1981</td>
<td>1960s</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Naturopathy</td>
<td>1910–1930</td>
<td>1900s–1990s</td>
<td>no</td>
<td>no</td>
</tr>
<tr>
<td>Acupuncture</td>
<td>no</td>
<td>1982–1985</td>
<td>no</td>
<td>no</td>
</tr>
</tbody>
</table>

The first four professions (in bold) have achieved conformity among themselves, including the adoption of professional competencies. Each of these professions is successfully established within the healthcare mainstream. In contrast, acupuncture, chiropractic, and naturopathy have not yet fully established themselves across the four criteria. The perception of these disciplines as standardized healthcare professions with a national presence will follow once consistency with the first four professions is complete and this information is disseminated to the users of the healthcare system.

Defining the Profession: AOM

AOM in the United States is a young profession. It has developed over three decades without widely accepted national standards. Existing AOM competency guidelines do not meet the criteria for establishing profession-based KSAs that can be tied to training curricula and workforce performance and planning. Given this gap, the ACGME’s six-competency framework, a suitable model with construct validity, can be considered for the base. This competency model is generally accepted by stakeholders in medicine who wish to improve or maintain educational or knowledge-training paradigms.

Each state in the nation has the right and authority to determine legal standards for all healthcare practitioners, including licensed and certified acupuncturists, as well as the actual legal requirements for acupuncture and the type of acupuncture training. However, there is little uniformity among these standards. “There are relatively few acupuncture practice acts with a clear definition of practice that make a clear link to what guides education, training, credentialing, etc.” Training and legal requirements vary considerably between states. Educational and training programs range from a four-year undergraduate degree to a two- or three-day continuing professional development course. The number of training hours varies widely, as do the types of jobs and areas of practice. Acupuncture practitioners can be categorized into four groups: acupuncture and Oriental medicine practitioners, medical practitioners, registered allied health practitioners, and non-registered health practitioners. Given these inconsistencies, the acupuncture and Oriental medicine profession needs to be defined by setting national standards for a tier of graduate-level training programs.

Accreditation and Credentialing in AOM

In higher education, program quality is ensured through accreditation, a peer review process based on established standards and guidelines. International and national accreditation and credentialing standards for AOM have not yet been universally adopted because they are not yet fully representative of the profession. ACAOM is the only national accrediting agency recognized by the US Department of Education for the accreditation and pre-accreditation (candidacy) of master’s degree, first professional doctorate, and postgraduate clinical doctoral programs in AOM.

The NCCAOM establishes, assesses, and promotes recognized standards of competence and safety. Established in 1982, NCCAOM is the only national organization that validates entry-level competency in the practice of AOM through professional certification. NCCAOM certification or, in most states, a passing score on a combination of the NCCAOM examinations provides evidence of competency for licensure as an acupuncturist by 43 states and the District of Columbia. Because state laws vary so widely, the assessment models used by ACAOM and NCCAOM must also vary from state to state. In order to reach a uniform standard of excellence nationwide, uniformity in acupuncture regulation will be required in addition to a professional competency model.

All NCCAOM certification exams (e.g., those on acupuncture, Chinese herbology, and Oriental medicine) are governed by the National Commission for Certification Agencies (NCCA). To maintain accreditation, the NCCAOM must adhere to national standards for exam development and administration. All diploma-level certification exams must meet the examination content-validity...
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Competencies and Scope of Practice

Each state has laws, licensing bodies, and regulations that define scope of practice. Scope of practice laws and regulations govern any healthcare profession that requires a license to practice in a certain state. A profession’s scope of practice is a dynamic entity continually molded to reflect the techniques and procedures commonly used in clinical practice. Six states currently have no acupuncture practice act.48

Scope of practice is a legal term that delineates what a profession does, and limits or confines the functions people within the profession may lawfully perform. The scope of practice of a licensed healthcare professional describes what the practitioner is legally allowed to do or prohibited from doing. Few acupuncture practice acts include a definition of practice that is clearly linked to education, training, and credentialing. Similarly, scope of competence defines or limits what an individual within a profession may do. Scope of competence is determined by education, training, and experience. These two scopes overlap and, in some cases, go hand in hand. Scope of practice is defined for the profession as a whole; scope of competence is defined or determined for each healthcare practitioner.49

Licensed practitioners may expand their scope of competence by continuing their education, taking additional courses, reading literature, watching videos, and seeking consultations or supervised experiences. However, practitioners may have the competence to provide treatment but may be limited because of their scope of practice. For example, a marriage and family therapist (MFT) licensed only at such may have the competence to extract a tooth, but that extraction would be prohibited by law and would be outside of the MFT’s scope of practice. Working outside of one’s scope of practice and working outside of one’s scope of competence are both violations of the law.50

Competency-Based AOM Graduate Degrees

A master’s degree is the entry-level standard for professional practice in acupuncture and/or Oriental medicine in the United States. A bachelor’s degree, relevant and standard pre–health profession training, and an entrance exam should be evaluated as potential pathways. Grants or funds for every applicant as required in comparable health professions training programs.46

AOM colleges use many names for these graduate degrees—for example, Master of Acupuncture, Master of Science in Traditional Chinese Medicine, Master of Science in Acupuncture and Oriental Medicine, Master of Science in Oriental Medicine, Diploma in Acupuncture, and Master in Traditional Oriental Medicine.47 By contrast, health professions with professional national standards commonly agree on uniform degree titles.

ACAOM standards require a total of 1905 hours of professional acupuncture curricula. This total includes at least 47 semester credits (705 hours) in Oriental medical theory, diagnosis and treatment techniques in acupuncture, and related studies; 22 semester credits (660 hours) in clinical training; 30 semester credits (450 hours) in biomedical clinical sciences; and 6 semester credits (90 hours) in counseling, communication, ethics, and practice management.

ACAOM standards for the professional Oriental medicine curriculum require a total of 2925 hours. This total includes at least 47 semester credits (705 hours) in Oriental medical theory, diagnosis and treatment techniques in acupuncture, and related studies; 50 semester credits (750 hours) in didactic Oriental herbal studies; 29 semester credits (870 hours) in integrated acupuncture and herbal clinical training; 34 semester credits (510 hours) in biomedical clinical sciences; and 6 semester credits (90 hours) in counseling, communication, ethics, and practice management.48

First Professional Doctorate

The profession has recently endorsed a professional doctorate as the entry degree to achieve licensure. This degree could coexist with established master’s-level programs, creating a tiered profession of practitioners.9 Healthcare executives require management competencies—that is, managerial capabilities—including the skills (technical expertise), knowledge (facts and principles), and abilities (physical, mental, or legal power) necessary to support the achievement of these competencies. Leadership and resource management, including the cost and finance dimensions, are the highest-rated management professional executive competencies. These standards vary from state to state. Having nationally accepted professional competencies is an important step toward excellence in training and professional stature.

Postgraduate Research Doctorate

The research doctorate will include competencies in research ethics, design and methods, data collection and analysis, and report
Cross-cultural skills must be required of competent professionals so much of the time required to complete doctoral degrees can be reduced.

The Institute of Medicine recommends a core set of competencies across all healthcare professions for optimum 21st-century healthcare. These competencies are additional in other medical professions should be included in the AOM competency model. These competencies are information literacy, research, clinical judgment, and evidence-based practice. All other biomedical healthcare professions have integrated these competencies into their entry-level standards of practice. Additional competencies in other medical professions should be included in the AOM competency model. These competencies are information literacy and qualitative research methods related to evidence-based care. These competencies include information literacy and quantitative and qualitative research methods related to evidence-based practice. All other biomedical healthcare professions have integrated these competencies into their entry-level standards of practice. Additional competencies in other medical professions should be included in the AOM competency model. These competencies are information literacy, research, clinical judgment, and evidence-based practice skills.

Inter-Professionalism
Inter-professional skills are linked to positive patient and provider outcomes and can significantly reduce medical errors and improve patient care. Inter-professional competencies include understanding and appreciating professional roles and responsibilities, demonstrating teamwork in monitoring patients, communicating effectively, and negotiating changes in working practices between healthcare professions.

These competencies have been developed by comparable organizations (e.g., the Academic Consortium for Complementary and Alternative Health Care) and should be a primary focus of student education aimed at increasing collaborative practice skills. Inter-professional competency-based training validates that the acupuncturist possesses sufficient clinical experience in mainstream medicine settings to work within his or her scope of practice in an integrated setting, such as a community or safety-net clinic, and that, like a physician assistant, nurse practitioner, or medical or osteopathic doctor, the acupuncturist can assign patients to appropriate treatment, including triage.

Inter-professional competency may be expressed in a language of caution since a new role—that of the acupuncturist—is being explored. Alternatively, a specific call to revise clinical training alongside conventional providers may be introduced. Regardless of the phraseology, however, inter-professional competencies must be present.

Multiculturalism
Acupuncture is a multicultural discipline often requiring efficient cross-cultural communication skills. Such clinical and linguistic cross-cultural skills must be required of competent professionals so much of the time required to complete doctoral degrees can be reduced.

The topics they represent include (a) evidence for the existence of qi and meridians; (b) the origins of needling therapy outside China; (c) placebo controls in acupuncture research; and (d) the pinpoint placement of needles. These and other important issues merit evidence-based attention.

Aligning Health Profession Competencies
The Institute of Medicine has recommended that students are educated to achieve a common set of core competencies across all healthcare professions for optimum 21st-century healthcare. These competencies are additional in other medical professions should be included in the AOM competency model. These competencies are information literacy, research, clinical judgment, and evidence-based practice. All other biomedical healthcare professions have integrated these competencies into their entry-level standards of practice. Additional competencies in other medical professions should be included in the AOM competency model. These competencies are information literacy and quantitative and qualitative research methods related to evidence-based care. These competencies include information literacy and quantitative and qualitative research methods related to evidence-based care.
Summary and Conclusions

Competencies describe the KSAs and judgment needed for success in healthcare professions. Competencies are used in the health professions for accreditation and alignment with program goals, learning activities, and student assessments. The shortage of healthcare professionals who can provide basic care to the nation is being filled by a steady expansion of the scopes of practice of mid-level healthcare providers. The acupuncture profession needs to provide masters’ and doctoral graduates that are trained to function as a part of healthcare in order to be a part of the greatest expansion of provider roles in US history. Education programs must be aligned with competency-based training in the healthcare professions. The proposed competency models and career lattices for AOM master’s, first professional doctorate, and research doctorate graduates will allow for universal acceptance across healthcare professionals, healthcare institutions, and the public.

“...The acupuncture profession needs to provide masters’ and doctoral graduates that are trained to function as a part of healthcare in order to be a part of the greatest expansion of provider roles in US history.”

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APPENDIX 1: GLOSSARY

ACGME- The Accreditation Council for Graduate Medical Education
Career Ladders and Lattices- Pictorial representations of vertical and horizontal job progression in a career, including detailed job descriptions and experiences
Category- A rating scale to evaluate the predefined levels or “amounts” of professional competence of individual learners
Competencies- The knowledge, skills, abilities, and judgment needed for success in professional roles
Competency Model- A list or diagram with detailed statements of knowledge, skills, abilities, and judgment needed for success in a profession
Competent-based medical education
Construct- The job or degree described by a competency model
Curricular Blueprint- A spreadsheet used to align objectives, instructional activities, and assessments so that performance test scores closely reflect program goals and learning objectives
Curriculum Alignment- Program goals, learning activities, and student assessments are consistent with each other
Domains- Higher-level categories of knowledge, skills, and abilities; general competencies
First Professional Doctorate- A doctoral degree with a focus on advanced clinical practice, management, and supervision
Inter-Professional Competencies- Communication skills with health professionals in various specialties and areas of practice
Competency Items- Statements of specific, detailed knowledge, skills, and abilities
Job Task Analysis- A detailed investigation of the knowledge, skills, abilities, and judgment needed for success in a job
KSAs- Knowledge, skills, and abilities
Milestones- Abilities expected of physicians or trainees at specific points in their development as professionals and fundamental to CBME
Next Accreditation System- ACGME’s single, unified accreditation system for graduate medical education programs across the United States
Outcomes- Student learning assessment scores, e.g., percentage of correct answers on a test, final grades, category scores
Performance Assessment- Evaluating individual learners’ job competencies by observing them in the workplace or in simulations, such as objective structured clinical examinations
Portfolio- A document used to record, track, and assess the development of professional skills
Prior-Learning Assessment- An applicant’s knowledge and skills acquired from prior training and years of work experience are assessed prior to the applicant’s entry into a doctoral program
Standard- A defined level or “amount” of competence. Standards are used for accreditation and for defining/measuring the levels of student performance on a rating scale
Scope of Practice- The functions that define a profession and that may be lawfully performed by qualified persons within the profession
Scope of Competence- Defines or limits what an individual within the profession may do, and is determined by one’s education, training and experience
Validity- The measurement quality of a test, category, or competency model
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References

2. National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM) - Index to Advertisers p.33
3. Parents of Children with Special Health Care Needs (PCSHCN) - Index to Advertisers p.33

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ST: Thank you for giving us this interview, Don. On the subject of gua, could you first define that for me?

DL: Well, first you must speak about gua sha, the two terms go together. Yes, it literally means, "scraping sand." The biomedical equivalent of this is "instrument-assisted soft tissue mobilization." This procedure traditionally has been done with a smooth scraping instrument that was made from stone or tortoise shell. Currently, GS instruments are made of plastic, stone, or stainless steel. The procedure is often used to treat chronic musculoskeletal pain, as well as lung or digestive disorders. The treatment consists of scraping the skin over the painful area just enough to turn it red on the initial treatment. This creates an immune response in the body by degranulating mast cells. The degranulation of mast cells causes a release of histamines. Histamines cause vasodilation of capillaries and increase the permeability of the capillaries to white blood cells. This reaction is seen on the skin as redness, that is, as the axon reflex flare.

ST: And antibodies?

DL: Yes, antibodies that rush to the site along with endorphins and anti-inflammatory agents.

ST: So, essentially, the procedure is used when there are injuries that require increased blood flow in order to heal?

DL: Yes, that’s right.

ST: Are there any risks involved?

DL: Yes, you certainly want to be careful not to scrape too deeply or to attempt to treat an area that is seriously injured or already hemorrhaging. Gua Sha is used in limited cases. For example, you would not treat an acute ankle sprain with gua sha.

ST: What conditions can be treated effectively by Gua Sha?

DL: Common chronic musculoskeletal injuries and pain...

ST: Are there commonly accepted protocols or techniques?

DL: It is essential that the scraping be neither too hard, in which case the injury or pain will be aggravated, nor too soft in which case the treatment will not be effective.
“The treatment consists of scraping the skin over the painful area just enough to turn it red on the initial treatment. This creates an immune response in the body by degranulating mast cells.”

E: What is the current state of the research? Is there enough literature for a meta-study?

DL: Oh, yes. There have been a number of studies done on the use of gua sha. In the US the studies can found under the western term for gua sha, instrument-assisted soft tissue mobilization.

ST: What are the essentials that need to be communicated to patients?

DL: The patient should be advised that there will be redness/petechial hemorrhaging on the area treated from one to ten days depending on how strongly the treatment has been applied, and that this is normal. There might also be some mild tenderness over the treated area. There should minimal discomfort during the application of GS and the pain relief should be noticeable to the patient immediately after the procedure is performed.

ST: Is this a technique that you teach?

DL: Yes, I do. I teach GS as part of the orthopedic curriculum in the universities where I am on faculty as well as in continuing education seminars.

ST: Integrated medicine appears to be the wave of the future, would you agree?

DL: Yes, and I find that when I explain a technique such as gua sha to colleagues trained in biomedical practice in terms that they understand, they are very interested.

ST: Do you find that there is controversy in the TCM profession about how this and other techniques and tools are integrated into mainstream medical environments?

DL: Yes, certainly there is. But, I believe that we are in America and this is the best way to go--the integrative route, that is. There are those who would like to practice TCM in a very traditional way to keep the practice “pure.” I have no problem with this, but it is my opinion TCM would be better served through facilitating understanding and integration of TCM into mainstream medicine.

ST: Thank you very much, Don, for your time.

DL: You’re welcome.

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