



Recently, the terms Dry Needling and Intramuscular Manual Therapy have been introduced to patient populations as new treatment options.

Are they? This paper analyzes the origins of Acupuncture, Dry Needling and Intramuscular Manual Therapy, examines the advantages and implications of their present day practice, and arrives at suggestions for how to best incorporate these therapeutic options into America's health care future.

Acupuncture, Dry Needling and Intramuscular Manual Therapy:

Understanding Acupuncture's Therapeutic Role in America

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"I look to the diffusion of light and education as the resource to be relied on for ameliorating the condition, promoting the virtue, and advancing the happiness of man." Thomas Jefferson

Preface

Acupuncture, Oriental Medicine and Traditional Chinese Medicine (TCM) inherits and develops the philosophies of Taoism and Confucianism and uses them to understand disease and health. The guiding concept of TCM is a correspondence between humankind and nature. We, as an organism in nature, reflect the world in which we live, thus making a balance between humankind and nature essential for wellbeing. Practice of Acupuncture with an understanding of the concepts of Traditional Chinese Medicine coupled by appropriate hours of clinical practice is essential to preserving the efficacy, the safety, the harmony and ultimately the power of Acupuncture to heal.

Dry Needling, as developed by Travell & Simons (Travell & Simons' *Myofascial Pain and Dysfunction: The Trigger Point Manual*, 1999⁴⁵), C. Chan Gunn ("Acupuncture Loci: A Proposal for Their Classification According to Their Relationship to Known Neural Structures," *American Journal of Chinese Medicine*, 1976¹²³) and Peter Baldry (*Acupuncture, Trigger Points and Musculoskeletal Pain: A Scientific Approach to Acupuncture for Use by Doctors and Physiotherapists in the Diagnosis and Management of Myofascial Trigger Point Pain*, 2005¹¹³), seeks to redefine Acupuncture by reframing its theoretical principles in a Western manner. This changing of Acupuncture's context is justified by a search for a biomedical principle by which Acupuncture affects its therapeutic properties. Attempting to provide new insight into a time honored healing model is laudable. Not respecting and preserving the methods by which that modality is practiced is dangerous.

Acupuncture, Dry Needling and Intramuscular Manual Therapy: Understanding Acupuncture's Therapeutic Role in America is organized in a question and answer or Socratic method format. Because completeness and entirety of each answer is the goal, some repetition of material occurs.

In the United States, both the American Association of Acupuncture and Oriental Medicine (AAAOM) and the Council of Colleges of Acupuncture and Oriental Medicine (CCAOM) have examined the practice of Dry Needling and found it to be consistent with and synonymous with the practice of Acupuncture.^{37,39}

This paper explains why.

What is Acupuncture? What is Dry Needling?

Until the last decade, the term “dry needling” was a generic concept, simply meaning the use of a needle, not carrying an injectable substance, to pierce soft tissue for therapeutic purposes.¹

Now, with the advent of Dry Needling and Intramuscular Manual Therapy techniques as promoted by the American Physical Therapy Association and the American Academy of Orthopaedic Physical Therapists,² a controversial new application has been created for the term “Dry Needling.”

This white paper seeks to answer the following questions:

- What are the origins of Acupuncture?
- What are the origins of Dry Needling and Intramuscular Manual Therapy?
- What is the definition of Acupuncture?
- What are the definitions of Dry Needling and Intramuscular Manual Therapy?
- Is Dry Needling/Intramuscular Manual Therapy a subset of Acupuncture?
- What national clinical and classroom education guidelines exist for Dry Needling, Intramuscular Manual Therapy and Acupuncture?
- Is EMG needle testing a model for Dry Needling, Intramuscular Manual Therapy and/or Acupuncture?
- What is Scope of Practice? When does a need arise to expand Scopes of Practice?
- What role do Medicare/Medicaid billing codes play in defining Scope of Practice in regards to Acupuncture, Dry Needling and Intramuscular Manual Therapy?
- Are Physical Therapy national organizations, through promotion of Dry Needling/Intramuscular Manual Therapy, seeking to develop a parallel therapeutic system of Acupuncture?
- Is Dry Needling/Intramuscular Manual Therapy, when practiced by Physical Therapists, safe?
- Is Acupuncture, when practiced by Licensed Acupuncturists, safe?
- How do we, as a healthcare community, define quality health care?
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What are the origins of Acupuncture?

To have a vantage from which to view Acupuncture, Dry Needling and Intramuscular Manual Therapy, it is necessary to have a rudimentary understanding of the genesis of these health care methods.

Acupuncture originated in China many centuries ago and soon spread to Japan, the Korean peninsula and elsewhere in Asia. Acupuncture, today, is widely used in health care systems in the countries of this region; it is officially recognized by governments and well received by the general public.^{3A}

Over its 2500 years of development, a wealth of experience has accumulated in the practice of Acupuncture, attesting to the wide range of diseases and conditions that can be treated effectively with this approach. Unlike many other traditional methods of treatment, which tend to be specific to their national or cultural context, Acupuncture has been used throughout the world, particularly since the 1970s.⁴ Although Acupuncture was introduced to Europe as long ago as the early seventeenth century, skepticism about its effectiveness continues to exist in countries where modern Western medicine is the foundation of health care, especially in those where Acupuncture has not yet been widely practiced. People question whether Acupuncture has a true therapeutic effect, or whether it works merely through the placebo effect, the power of suggestion, or the enthusiasm with which patients wish for a cure.⁵

A large body of research exists in Acupuncture, covering virtually every symptom.⁶ In the 1950's, the Central Committee in China was interested in this question; thousands of additional studies were performed. The results led the Committee to bestow equal recognition to Traditional Chinese Medicine (TCM) and Western Medicine.⁷

In 1991, a progress report on traditional medicine and modern health care was submitted by the Director-General of the World Health Organization to the Forty-fourth World Health Assembly.⁸ The report pointed out that in countries where Acupuncture forms part of the cultural heritage, its use in an integrated approach to modern and traditional medicine presents no difficulty. However, in countries where modern Western medicine is the foundation of health care, the ethical use of Acupuncture requires objective evidence of its efficacy under controlled clinical conditions.⁹

In 2003, the World Health Organization reviewed selected studies on controlled clinical trials. Some of these studies provided incontrovertible scientific evidence that Acupuncture is more successful than placebo treatments in certain conditions. For example, the proportion of chronic pain relieved by Acupuncture is generally in the range 55-85%, which compares favorably with that of potent drugs (morphine helps in 70% of cases) and far outweighs the placebo effect (30-35%). In addition, the mechanisms of Acupuncture analgesia have been studied extensively since the late 1970s, revealing the role of neural and humoral factors.¹⁰

“Over its 2500 years of development, a wealth of experience has accumulated in the practice of Acupuncture, attesting to the wide range of diseases and conditions that can be effectively treated with this approach.”⁴ (World Health Organization)

The 2003 World Health Organization Report, *Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials* (2003) concluded that diseases, symptoms or conditions for which Acupuncture has been proved-through controlled trials-to be an effective treatment included: Adverse reactions to radiotherapy and/or chemotherapy; Allergic rhinitis (including hay fever); Biliary colic; Depression (including depressive neurosis and depression following stroke); Dysentery, acute bacillary; Dysmenorrhoea, primary; Epigastralgia, acute (in peptic ulcer, acute and chronic gastritis, and gastrospasm); Facial pain (including craniomandibular disorders); Headache; Hypertension, essential; Hypotension, primary; Induction of labour; Knee pain; Leukopenia; Low back pain; Malposition of fetus, correction of; Morning sickness; Nausea and vomiting; Neck pain; Pain in dentistry (including dental pain and temporomandibular dysfunction); Periarthritis of shoulder; Postoperative pain; Renal colic; Rheumatoid arthritis; Sciatica; Sprain; Stroke; Tennis elbow.¹¹

The past two decades have seen extensive studies on Acupuncture, and great efforts have been made to conduct controlled clinical trials that include the use of “sham” Acupuncture or “placebo” Acupuncture controls. Although still limited in number because of the difficulties of carrying out such trials, convincing reports, based on sound research methodology, have been published. In addition, experimental investigations on the mechanism of Acupuncture have been carried out.¹²

What are the origins of Dry Needling and Intramuscular Manual Therapy?

The origins of Dry Needling and Intramuscular Manual Therapy are less clearly documented. Prior to 1986, there were few if any mentions of Dry Needling as a therapeutic modality in this country. Jan Dommerholt, PT, DPT, MPS, has emerged as one of the main proponents of Dry Needling. In the United States, Dommerholt was the first physical therapist to teach trigger point dry needling courses and injection techniques.¹³ Dommerholt has published extensively on the Dry Needling technique and teaches Dry Needling to biomedicine trained health professionals, most specifically Physical Therapists. He argues that Dry Needling is a new emerging Western technique described in Western scientific terms.¹⁴ Dommerholt attributes the foundation of Dry Needling to the works of Janet Travell, MD. Myopain Seminars, founded by Dommerholt, markets its instructional seminars on Dry Needling as the Janet G. Travell, MD Seminar Series.^{sm15}

“Many practitioners of Acupuncture use several TrP [triggerpoint] criteria to locate pain Acupuncture points.”¹⁸ (Travell & Simons’ The Trigger Point Manual)

The work of Janet Travell, MD, is often credited by proponents of Dry Needling as being the foundation of Dry Needling theory and practice. Travell pioneered the use of Manual Trigger Point (MTrP) injections. Her first paper describing MTrP injection techniques was published in 1942, followed by many others. Together with Dr. David Simons she wrote the 2-volume Trigger Point Manual, first published in 1983, with a second edition being published in 1999.^{16,17} Travell/Simons acknowledge Acupuncture’s role in the development of Dry Needling:

“Many practitioners of Acupuncture use several TrP [Trigger Point] criteria to locate pain Acupuncture points and, in fact, are successfully performing dry needling of TrPs that they speak of as Acupuncture therapy.”¹⁸

Dommerholt echoes this awareness of Trigger Points, as a subset of Acupuncture points, being used therapeutically:

“Although muscle needling techniques have been used for thousands of years in the practice of acupuncture, there is still much uncertainty about their underlying mechanisms. The acupuncture literature may provide some answers.”¹⁹

The term Intramuscular Manual Therapy seems to be a later derivation of the terms “Manual Therapy” and Intramuscular Stimulation.” The Centers for Medicare & Medicaid Services (CMS) define Manual Therapy, under Current Procedure Terminology code 97140, as “mobilization, manipulation, manual traction and manual lymphatic drainage.”²⁰ Dr. C. Chan Gunn, President of the Institute for the Study and Treatment of Pain, based in Vancouver, Canada, and Clinical Professor at the University of Washington, Seattle, US, takes credit for the development of Intramuscular Stimulation. In a 2002 interview Gunn stated:

“I have developed a technique called Intramuscular Stimulation (IMS), to stimulate the nerves within the muscles... The IMS technique began in 1973, and coincided with my growing interest in acupuncture from 1974, when I noticed that most acupuncture points related to nerve-muscle junctions.”²¹

Travell & Simons, in *Myofascial Pain and Dysfunction: The Trigger Point Manual*, Volume I (1999), acknowledged Gunn’s work:

“Gunn recommends identifying TrPs [trigger points] by spot tenderness in a palpable taut band and then using acupuncture techniques. Gunn identifies this TrP injection technique as Intramuscular Stimulation.”²²

In 1995, Jennifer Chu, M.D., Associate Professor and Director of Electrodiagnostic Medicine of the Department of Physical Medicine and Rehabilitation at the University of Pennsylvania School of Medicine, conducted a series of studies of what she termed “dry needling or non-electrical and non-chemical intramuscular stimulation (IMS).”²³ This study was published under the title “Dry needling (intramuscular stimulation) in myofascial pain related to lumbosacral radiculopathy” and is quoted extensively in support of Dry Needling/Intramuscular Stimulation for the treatment of myofascial pain. However, the National Institutes of Health, in their study entitled *Complementary and Alternative Therapies for Back Pain II*:

Evidence Reports/Technology Assessments, No. 194 (2010), excluded the Chu study and its clinical conclusions because of inadequate clinical trial design, specifically, “Observational (Comparative) Study not Reporting Harms.”²⁴ (See Endnote A.)

In 2012, the use of the terms “Intramuscular Manual Therapy” to indicate the practice of Dry Needling was formalized by the American Physical Therapy Association:

“The issue of whether the performance of dry needling (sometimes referred to as trigger point dry needling or intramuscular manual therapy) is within the professional and legal scope of physical therapist practice continues to be a question posed to state regulatory boards and agencies.”²⁵

(A.): The NIH excluded the study with the explanation: “Observational (Comparative) Study not Reporting Harms.” The Agency for Healthcare Research and Quality explains this exclusion: “Only systematic reviews that compare the relative benefits and **harms** [emphasis added] among a range of available treatments or interventions for a given condition should be included in Comparative Effectiveness Reviews.”

When To Select Observational Studies as Evidence for Comparative Effectiveness Reviews Prepared for: The Agency for Healthcare Research and Quality (AHRQ) Training Modules for Systematic Reviews Methods Guide www.ahrq.gov²⁶

What is the definition of Acupuncture?

“Acupuncture, in the strictest sense, refers to insertion of dry needles, at specially chosen sites for the treatment or prevention of symptoms and conditions,”²⁷ states the Alberta Heritage Foundation for Medical Research, Health Technology Assessment Unit. (Please see Appendix A for the Alberta Heritage Foundation’s publication *Acupuncture: Evidence from Systematic Reviews and Meta-analyses*.)

The Agency for Healthcare Research and Quality (AHRQ), a division of the National Institutes of Health, in a Technology Assessment published by The U.S. Department of Health and Human Services, Public Health Service agrees: “Acupuncture refers to the insertion of dry needles at specially chosen sites for the treatment or prevention of symptoms and conditions.”^{26,27} (Please see Appendix B for AHRQ Technology Assessment published by CMS entitled *Acupuncture for Osteoarthritis*.)

“Acupuncture, in the strictest sense, refers to insertion of dry needles, at specially chosen sites for the treatment or prevention of symptoms and conditions.”²⁷ (AHRQ Technology Assessment, Acupuncture for Osteoarthritis)

Another way of viewing Acupuncture is to see the body as an energetic whole, comprised of energy pathways that are approached by and accessed through the insertion of solid, filiform acupuncture needles. Acupuncture literally means to puncture with a needle.²⁸ Acupuncture can be defined to include traditional body needling, electric acupuncture (electro-acupuncture), and microsystem acupuncture such as ear (auricular), face, hand and scalp acupuncture.²⁹ Thus, Acupuncture becomes a system of medicine that utilizes needles to achieve therapeutic effect.³⁰

The Centers for Medicare and Medicaid Services describe Acupuncture in the following manner:

“Acupuncture involves the stimulation of the specific Acupuncture points on the skin, usually by the insertion of needles ranging in length from 1cm to 10cm. Between 5 and 15 needles are used in a typical treatment, with the point combinations varying during a course of sessions. The Acupuncture points can be chosen based on a standardized “formulary” involving a fixed menu of consistent points for each disease/condition or selected for each patient individually based on a patient’s specific symptoms and Qi [energetic] balance. Depth of puncture can be up to 5cm.”³¹

The World Health Organization (WHO) recognizes the need to establish standard and universal nomenclature for Traditional Chinese Medicine, i.e. herbal medicine, Acupuncture and other non-medication therapies. The WHO acknowledges that “owing to its unique paradigm and remarkable efficacy with fewer adverse effects, this system of medicine has been attracting more and more interest internationally.”³²

After 10 years of effort, a consensus on the proposed standard international Acupuncture nomenclature was reached by the Regional Office for the Western Pacific’s Working Group and then by the WHO Scientific Group in Geneva.³³ In 1991, *A Proposed Standard International Acupuncture Nomenclature* was published by WHO in Geneva and a revised edition of *Standard Acupuncture Nomenclature* (Part 1 and 2) was published by the Regional Office for the Western Pacific in Manila.³⁴ Practical use has proven these WHO publications to be invaluable contributions to international information exchange on Acupuncture.³⁵ Following are excerpts taken from this document regarding Acupuncture and its application. Please note the hierarchy of coding numbers used. All terms beginning with a code of 5.1 have been determined by the World Health Organization to be a subset of Acupuncture.³⁶

Code	Term	Chinese	Definition/Description
5.1.0	Acupuncture	鍼; 鍼法	the insertion of needles into humans or animals for remedial purposes or its methods
5.1.6	filiform needle	毫鍼	a type of fine needle of varying length most commonly used in performing acupuncture at present
5.1.53	acupuncture point	穴; 腧穴; 穴位	the point where a needle is inserted and manipulated in acupuncture therapy
5.1.54	meridian point	經穴	acupuncture points of a main meridian or the governor or conception vessel
5.1.55	extra point	經外奇穴; 奇穴	acupuncture points not located on the meridians, also known as non-meridian point
5.1.56	specific point	特定穴	points on the fourteen meridians with specific therapeutic effects
5.1.225	trigger point	發痛点	a sensitive area of the body which produces a reaction elsewhere in the body when stimulated

The American Association of Acupuncture and Oriental Medicine, the national organization that represents both Licensed Acupuncturists and students of Acupuncture and Oriental Medicine by promoting excellence and integrity in the professional practice of Acupuncture and Oriental medicine, clarifies the concept of Acupuncture:

- “1. Acupuncture is the stimulation of specific anatomical locations on the body, alone or in combination, to treat disease, pain, and dysfunction.
2. Acupuncture includes the invasive or non-invasive stimulation of said locations by means of needles or other thermal, electrical, light, mechanical or manual therapeutic method.
3. Acupuncture, as a field of practice, is defined by the study of how Acupuncture can be applied to health and wellness.”³⁷

The Council of Colleges of Acupuncture and Oriental Medicine, whose mission is to establish, assess and promote recognized standards of competence and safety in Acupuncture and Oriental medicine for the protection and benefit of the public, summarizes the practice and discipline of Acupuncture:

“Acupuncture is a system of medicine that utilizes needles to achieve therapeutic effect. The language used to describe and understand this effect is not limited and is articulated in both traditional and modern scientific terms. The National Institutes of Health has recognized the efficacy of Acupuncture in its consensus of 1997³⁸ and continued funding of research.”³⁹
(Please see Appendix C for complete CCAOM Dry Needling Position Paper.)

What are the definitions of Dry Needling and Intramuscular Manual Therapy?

This definition, from the *Dry Needling Fact Sheet* provided by Jan Dommerholt and frequently quoted by other Physical Therapists, might serve as a starting point:

“Dry needling is an invasive procedure in which a solid filament needle is inserted into the skin and muscle directly at a myofascial trigger point.”⁴⁰

The North Carolina Board of Physical Therapy defines Dry Needling/Intramuscular Manual Therapy thusly:

“Intramuscular manual therapy, which is sometimes referred to as **dry needling** [emphasis added], is defined as a technique to treat **myofascial pain** [emphasis added] using a dry needle (*without medication*) that is inserted into a trigger point with the goal of releasing / inactivating the trigger points and relieving pain.”⁴¹

As defined by the American Physical Therapy Association’s Educational Resource Paper, *Physical Therapists & the Performance of Dry Needling* (2012), Dry Needling is an invasive technique used by physical therapists (where allowed by state law) to treat myofascial pain that uses a dry needle, without medication or injection, which is inserted into areas of the muscle known as trigger points.⁴²

“*Dry Needling is an invasive procedure in which a solid filament needle is inserted into the skin and muscle directly at a myofascial trigger point.*”⁴⁰ (Dommerholt, Dry Needling Fact Sheet)

In his article, *Trigger Point Dry Needling* (2006), Jan Dommerholt acknowledges Gunn’s work in the field of Dry Needling/Intramuscular Stimulation while helping to define both terms and their usage:

“A review of TrP-DN [trigger point-Dry Needling] would be incomplete without including a brief summary of Gunn’s needling approach... Gunn introduced the term Intramuscular Stimulation or “IMS” to distinguish his approach from other needling and injection approaches, but the term is frequently used to describe any dry needling technique.”⁴³

Is Dry Needling/Intramuscular Manual Therapy a subset of Acupuncture?

A subset is a group of things, people, etc., that is part of a larger group.⁴⁴ In order to determine whether Dry Needling is a subset of Acupuncture, it is necessary to clarify the diagnostic and therapeutic usage of the term “Trigger Points.” Travell and Simons’ *Myofascial Pain and Dysfunction, the Trigger Point Manual*, describes the relationship between Trigger Points, Acupuncture and Dry Needling:

“The distinction between TrPs [Trigger Points] and Acupuncture points *for the relief of pain* is blurred for a number of good reasons... There is a high degree of correspondence (71% based on their analysis) between published locations of TrPs and classical acupuncture points *for the relief of pain*.⁴⁵

“Classical acupuncture points are identified as prescribed points along meridians defined by ancient Chinese documents. As Melzack, *et al.*⁴⁶ showed, the ancient Chinese clinicians were astute enough to recognize the importance of many common TrP locations and to include them in their charts of acupuncture points for pain. Currently, there are a number of practitioners of acupuncture who use a modified definition of acupuncture points which would selectively identify TrP locations. Belgrade⁴⁷ states that “tender points are acupuncture points and can often be chosen for therapy.” If one defines an acupuncture point for treatment of pain as a tender spot, one is using a cardinal definition of TrPs as a criterion for an acupuncture point, which would increase the likelihood of treating a TrP and calling it an acupuncture point.⁴⁸

“It is now well-established that pain relief experienced from classical acupuncture points is associated with an endorphin response in the central nervous system.^{49,50}

“One student of Acupuncture, Pomeranz,⁵¹ emphasized the importance of the Deqi phenomenon for identifying an acupuncture point. The Deqi phenomenon is described as a sensation of fullness, distension, and pins and needles when the inserted needle encounters the acupuncture point. However, essentially the same sensory phenomenon is frequently observed when injecting a TrP and the local twitch response is observed.⁵²”

Travell/Simons summarize this discussion:

“In conclusion, frequently the acupuncture point selected for the treatment of pain is actually a TrP.”⁵³

Since the use of Acupuncture predates Dry Needling, it is appropriate to state that frequently the trigger point selected for the treatment of pain is actually an Acupuncture point. In fact, Dry Needling is a pseudonym for a brief course of study in myofascial acupuncture also known as Ashi Acupuncture and Trigger Point Acupuncture.⁵⁴ Three important studies, *Trigger Points and Classical Acupuncture Points, Parts 1,2,3* (P.T. Dorsher, J. Fleckenstein) explore the relationship of Ashi or Acupuncture points to myofascial trigger point regions. In the first part of the study, myofascial trigger point regions were demonstrated to have strong (93.3%) anatomic correspondences with classical acupuncture points.⁵⁵ The second portion of this study examined the clinical correspondences of trigger point regions and classical acupuncture points in the treatment of both pain and somatovisceral disorders, and found they had ~ 97 % correlation for treating pain conditions and over 93 % correlation in treating somatovisceral conditions.⁵⁶ The third portion of the study concluded that the strong (up to 91%) consistency of the distributions of trigger point regions' referred pain patterns to Acupuncture meridians provides a third line of evidence that trigger points most likely represent the same physiological phenomenon as Acupuncture points in the treatment of pain disorders.⁵⁷ (Please see Appendix D for text of three studies "Trigger Points and Classical Acupuncture Points Parts 1-3," by P.T. Dorsher, et al.)

The World Health Organization agrees. WHO defines trigger point as a subset of Acupuncture points. Therefore, Dry Needling of trigger points is also a subset of Acupuncture. In 1981, the World Health Organization (WHO) Regional Office for the Western Pacific organized a Working Group for the Standardization of Acupuncture Nomenclature. After 10 years of effort, a consensus on the proposed standard international Acupuncture nomenclature was reached by the Regional Office for the Western Pacific's Working Group and then by the WHO Scientific Group in Geneva. In 1991, *A Proposed Standard International Acupuncture Nomenclature* was published by WHO in Geneva and a revised edition of *Standard Acupuncture Nomenclature* (Part 1 and 2) was published by the Regional Office for the Western Pacific in Manila. Below is an excerpt from *A Proposed Standard International Acupuncture Nomenclature* as pertains to trigger points. Again, please note the hierarchy of coding numbers used. All terms beginning with a code of 5.1 have been determined by the World Health Organization to be a subset of Acupuncture.⁵⁸ (For a chart presentation of the WHO's classifications used in this paper, please see Appendix E.)

5.1.225	trigger point	發痛点	a sensitive area of the body which produces a reaction elsewhere in the body when stimulated
5.1.226	trigger point needling	發痛点刺鍼	a type of acupuncture in which the trigger points are needed for therapeutic purposes
5.1.227	tender point needling	壓痛点刺鍼	a type of acupuncture in which the tender points are needed for therapeutic purposes
5.1.228	intramuscular stimulation needling	筋肉刺鍼	a needle stimulating treatment for muscle shortening in deep muscles, especially effective for chronic pain of neuropathic origin, also known as needling myofascial trigger points
5.1.68	ouch point	阿是穴；天應穴	an acupuncture point with no specific name nor definite location, the site of which is determined by tenderness or other pathological responses, also known as the ashi point
5.1.127	lifting-thrusting method	提插法	a needle manipulation involving lifting and thrusting the needle
5.1.168	intermuscular needling	分刺	an ancient needling method by puncturing directly into the muscle

Licensed Acupuncturists use Ashi/Trigger Point Acupuncture/Dry Needling in their healthcare practices. The National Commission for the Certification of Acupuncture and Oriental Medicine (NCCAOM), the certifying board for Acupuncture licensure, supports this conclusion. The NCCAOM completed a job task analysis in 2003 and again in 2008. The analysis documented the prevalence of actual use of Dry Needling practices, that is the treatment of trigger points, motor points and/or ashi points with Acupuncture needles, by practicing acupuncturists. In 2003, 82% of acupuncturists surveyed used needling of trigger points in patients who presented with pain. Of the patients who present for Acupuncture treatment, it is estimated that 56% present with trigger point pain.⁵⁹

“Acupuncturists are well trained to use and have consistent historical usage of trigger and motor point “dry needling” treatment. Dry needling represents a substantial daily practice among American acupuncturists.”⁵⁹ (Council of Colleges of Acupuncture and Oriental Medicine, Dry Needling Position Paper)

These findings from the 1981 convened WHO Working Group for the Standardization of Acupuncture Nomenclature document that acupuncturists are well trained to use and have consistent historical usage of trigger and motor point “dry needling” treatment that pre-dates the 1986 introduction of the term “dry needling.” Dry Needling represents a substantial daily practice among American acupuncturists.⁶⁰

C. Chan Gunn goes one step farther as he explores the relationship between Acupuncture and Dry Needling/Intramuscular Stimulation. In his article Neuropathic Pain: A New Theory for Chronic Pain of Intrinsic Origin (1989), he concludes that all three are injection techniques and therefore one and the same:

“Why is Acupuncture accepted in the East, specifically for the treatment of chronic pain, but not in the West? One reason is that the modus operandi of Acupuncture is not fully understood... Injection techniques, including Acupuncture, are more effective and long lasting because the tissue injury that they produce can unleash the body's healing source of bio-energy through the current of injury.”⁶¹

What national clinical and classroom education guidelines exist for Dry Needling, Intramuscular Manual Therapy and Acupuncture?

In their resource paper, “Physical Therapists and the Practice of Dry Needling” (2012), the American Physical Therapy Association describes the current educational standards for entry level Physical Therapists:

“The education of physical therapists includes anatomy, histology, physiology, biomechanics, kinesiology, neuroscience, pharmacology, pathology, clinical sciences, clinical interventions, clinical applications, and screening. Much of the basic anatomical, physiological, and biomechanical knowledge that dry needling uses is taught as part of the core physical therapist education; the specific dry needling skills are **supplemental** [emphasis added] to that knowledge. Currently dry needling is not specifically included in entry-level education for physical therapists; however some physical therapist education programs have begun including it in their curriculum.”⁶²

Jan Dommerholt (PT, DPT, MPS and the first Physical Therapist in the United States to teach trigger point dry needling courses⁶³) also acknowledges that Physical Therapy education is not designed to teach Physical Therapists how to insert a needle into patients: “In the United States, dry needling is not included in physical therapy educational curricula.”⁶⁴ He adds, “Accurate needling requires clinical familiarity with Myofascial Trigger Points and excellent palpation skills.”⁶⁵

Licensed Acupuncturists, however, are receiving education in Acupuncture/ashi/myofascial trigger point location through palpation skills and needling technique. Individuals who attain national Acupuncture certification through the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM) undergo a rigorous training program at a minimum standard of three academic years, 1490 hours in Acupuncture, including point location and needle technique. Of the 1490 hours in Acupuncture, 660 hours must be clinical hours, in other words, hours spent practicing Acupuncture under the supervision of a LAc. In addition, NCCAOM-certified Acupuncturists are required to be certified in Clean Needle Technique and must complete Continuing Education Units in order to maintain their certification.⁶⁶

The World Health Organization’s publication, *Guidelines on Basic Training and Safety in Acupuncture* (2010), presents Needle Technique Safety guidelines that are meant for hospitals, clinics and practitioners, and that provide standards for safety in the clinical practice of Acupuncture.⁶⁷ The purpose of these Guidelines is to minimize the risk of infection and accidents, to alert acupuncturists to contraindications, and to advise on the management of complications occurring during needle insertion.⁶⁸ Since both Acupuncture and Dry Needling/Intramuscular Manual Therapy involve the insertion of dry needles into the

human body for therapeutic purposes, the WHO recommendations are particularly germane for both Acupuncturists and Physical Therapists employing Dry Needling/Intramuscular Manual Therapy. They are also the basis for Clean Needle Certification that is required of all Licensed Acupuncturists in the United States. These basic safety standards for needling a human body, as delineated by WHO, include training in:

Guidelines on Basic Training and Safety in Acupuncture

1. Prevention of infection
 - Clean working environment
 - Clean hands
 - Preparation of needling sites
 - Sterilization and storage of needles and equipment
 - Aseptic technique
2. Contraindications
 - Pregnancy
 - Medical emergencies and surgical conditions
 - Malignant tumors
 - Bleeding disorders
3. Accidents and untoward reactions
 - Needle Quality
 - Position of patient
 - Fainting
 - Convulsions
 - Pain
 - Stuck needle
 - Broken needle
 - Local infection
4. Electrical stimulation and laser therapy
5. Injury to important organs
 - Areas not to be punctured
 - Precautions to be taken

Source:

"Guidelines on Basic Training and Safety in Acupuncture." *World Health Organization*. Web. 13 Feb. 2012.
<<http://apps.who.int/medicinedocs/en/d/Jwhozip56e/>>.

Is EMG needle testing a model for Dry Needling, Intramuscular Manual Therapy and/or Acupuncture?

Needle insertion for EMG by Physical Therapists is not sanctioned by the American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM). Based on AANEM's recommendations, BlueCross BlueShield does not reimburse Physical Therapists performing EMG in North Carolina or nationally.

“Non-physician providers, including physical therapists, chiropractors, physician assistants, and others, do not have the appropriate training and knowledge to perform and interpret EMG studies.”⁶⁹ (American Association of Neuromuscular and Electrodiagnostic Medicine)

It is the position of the North Carolina Board of Physical Therapy Examiners that “the question of whether the insertion of a needle would be ‘an invasive procedure that is not allowed for physical therapists’ is not an issue in North Carolina as physical therapists have used needle insertion for EMG studies for more than forty years.”⁷⁰ The American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM) disagrees. The AANEM is a regulatory agency that provides Electrodiagnostic policy guidelines, which include EMG testing. Their white paper, “Model Policy for Needle Electromyography and Nerve Conduction Studies” (2010), defines electrodiagnostic (EDX) evaluation as an extension of the neuromuscular portion of a physical examination.⁷¹ During EDX evaluation, physicians typically perform needle electromyography (EMG) and nerve conduction studies (NCSs).⁷² It is the recommendation of the American Association of Neuromuscular and Electrodiagnostic Medicine that:

“Non-physician providers, including **physical therapists** [emphasis added], chiropractors, physician assistants, and others, **do not have the appropriate training and knowledge to perform and interpret EMG studies** [emphasis added] and interpret NCSs.”⁷³ (Please see Appendix F for AANEM Model Policy for Needle Electromyography and Nerve Conduction Studies.)

BlueCross BlueShield of North Carolina (and nationally) supports this policy, adopting as their own standards the ones set forth by AANEM. BlueCross BlueShield North Carolina (BCBSNC) Corporate Medical Policy Guidelines for Electrodiagnostic Studies, including Needle EMG Studies, are as follows:

“Needle insertion for an EMG requires detailed knowledge of anatomy to prevent injury to anatomical structures, nerves, and arteries. A qualified physician in electrodiagnostic studies must be knowledgeable regarding the pathology of muscle and nerve, neuromuscular physiology, electrophysiology, and clinical understanding of neurological and musculoskeletal conditions in order to formulate an accurate diagnosis. Electrodiagnostic studies are performed by physicians that have extensive knowledge of neurological and musculoskeletal disorders. BCBSNC reinforces their EMG guidelines by further stating that “Electrodiagnostic Studies are not covered by BCBSNC when performed by non-physicians or physicians without appropriate training.”⁷⁴ (Please see Appendix G for BCBSNC Corporate Medical Policy on Electrodiagnostic Studies.)

“The American Association of Neuromuscular & Electrodiagnostic Medicine (AANEM) has indicated in their position statements that needle EMG must be performed by a physician with special training in electrodiagnostic medicine (typically neurologists or physiatrists). The physician must complete at least 200 electrodiagnostic consultations during his/her training program. Full competency is achieved through the experience of completing an additional 200 complete Electrodiagnostic consultations. It is also recommended that the physician be credentialed through the American Board of Electrodiagnostic Medicine or other equivalent examining board.”⁷⁵

It seems reasonable to conclude that Physical Therapists performing Needle EMG studies in North Carolina and /or nationwide are neither sanctioned by the American Association of Neuromuscular and Electrodiagnostic Medicine nor are their EMG studies covered for insurance reimbursement by BlueCross BlueShield.

What is Scope of Practice?

When does a need arise to expand Scopes of Practice?

Scope of Practice has been described as:

1. “Defined spheres of activity within which various types of health care providers are authorized to practice”⁷⁶
2. “Those health care services a ...health care practitioner is authorized to perform by virtue of professional license, registration, or certification”⁷⁷
3. The “definition of the rules, the regulations, and the boundaries within which a fully qualified practitioner with substantial and appropriate training, knowledge, and experience may practice in a field”⁷⁸
4. “Establish[ing] which professionals may provide which health care services, in which settings, and under which guidelines or parameters”⁷⁹

The Federation of State Medical Boards, in their 2005 Report, “Assessing Scope of Practice in Health Care Delivery: Critical Questions in Assuring Public Access and Safety” establishes this specific set of guidelines to be considered when evaluating the merit/need of a particular healthcare profession to expand its scope of practice to include modalities of another health care profession. These “Guidelines” recommend that State regulators and legislators review the following factors when considering scope of practice initiatives in the interest of public health and patient safety:⁸⁰

FSMB Guidelines for evaluating merit/need of scope of practice expansion change

- Existence of a verifiable need for the proposed scope of practice change;
- Existing scopes of practice and the effect of requested changes on public health and safety;
- Formal education and training purported to support scope of practice changes and the existence of a formal process for accreditation;
- Existing or proposed regulatory mechanisms such as licensure, certification and registration;
- The advisability of allowing independent practice or requiring collaboration or supervision;
- The advisability of interaction and cooperation between affected regulatory boards in evaluating issues that involve multiple practitioners, in investigating complaints, and in recommending appropriate discipline;
- Requirements for full and accurate disclosure by all health care practitioners as to their qualifications to provide health care services;
- Accountability and liability issues relating to scope of practice changes;
- Details, rationale, and ethics of any proposals to bypass licensing or regulatory requirements in allowing scope of practice changes, the implications for other practitioners, and the effect on patient safety; and
- Financial impact and incentives related to and affecting the scope of practice changes.⁸⁰

Space here does not permit a state by state examination of whether the needs identified in these guidelines have been met by each state's regulatory agencies in which Physical Therapists have expanded their scope of practice to include Dry Needling. However, one state's regulatory agency's ruling could serve as a test case. (Please see Appendix H for FSMB Scope Expansion Needs Worksheet Rubric Form to be used for additional state Scope of Expansion Needs Analyses.)

Following is the most recent ruling (1/2012) by the Illinois Department of Financial and Professional Regulation in the matter of Physical Therapists being allowed to Dry Needle in Illinois:

"The Department has received a number of inquiries regarding the practice of 'Intramuscular Manual Therapy' or 'dry needling' by licensed physical therapists.

"Following a review of the Illinois Physical Therapy Practice Act, it appears that 'dry needling' falls within the scope of practice of physical therapy when used to provide physical therapy to a physical therapy patient. This is pursuant to the definition of physical therapy as set forth in 225 ILCS 90/1(b), which states in part that physical therapy includes "(a)Alleviating impairments, functional limitations, or disabilities by designing, implementing ... therapeutic interventions that may include ... treatment of a person ... with or without assistive devices, for the purposes of preventing, correcting, or alleviating a physical or mental impairment, functional limitation, or disability." The Department has conducted research to verify that 'dry needling' has been found to be in the scope of practice for physical therapists in a number of other states including Texas, Virginia, Colorado, Ohio and Kentucky.

"The Department notes that physical therapists that wish to incorporate 'dry needling' in their practice must comply with all other provisions of the Illinois Physical Therapy Act including the requirement that the patient have a documented current and relevant diagnosis and/or referral for physical therapy services. In addition, the decision to use this therapy must follow an evaluation by a licensed physical therapist and should only be performed by those licensed physical therapists that have sufficient skill and training. Physical therapists that injure or harm a patient by improperly performing 'dry needling' may be subject to discipline of their physical therapy license up to and including revocation.

"The Department further notes that the practice of 'dry needling' would also fall under the scope of practice of acupuncture. Unless they are also licensed as an acupuncturist, physical therapists that wish to incorporate 'dry needling' in their physical therapy practice should not advertise or hold themselves out as an acupuncturist.⁸¹"

Following is scope of expansion needs analysis using the FSMB Scope of Practice Expansion Needs Worksheet Rubric for the State of Illinois:

Scope of Practice Expansion Needs Worksheet Rubric

These bulleted guidelines are from the Federation of State Medical Board's 2005 Report: Assessing Scope of Practice in Health Care Delivery: Critical Questions in Assuring Public Access & Safety.⁷⁷ Please use as a rubric for determining if Physical Therapy Expansion of Scope of Practice needs have been met in your state. (Please see Appendix H.)

- **FSMB Guideline**

Was guideline satisfied and need met?

- **Existence of a verifiable need for the proposed scope of practice change**

No evidence given of a need for the proposed scope of practice change

- **Existing scopes of practice and the effect of requested changes on public health and safety**

IDFPR is repository of Physical Therapy and Acupuncture Practice Acts.

No mention made of the effect of requested changes on public health and safety.

- **Formal education and training purported to support scope of practice changes and the existence of a formal process for accreditation**

"...only be performed by those licensed physical therapists that have sufficient skill and training."

No quantitative mention made of formal education and training purported to support scope of practice changes. No mention made of a formal process for accreditation.

- **Existing or proposed regulatory mechanisms such as licensure, certification and registration**

"The Department notes that physical therapists that wish to incorporate 'dry needling' in their practice must comply with all other provisions of the Illinois Physical Therapy Act including the requirement that the patient have a documented current and relevant diagnosis and/or referral for physical therapy services. In addition, the decision to use this therapy must follow an evaluation by a licensed physical therapist and should only be performed by those licensed physical therapists that have sufficient skill and training. Physical therapists that injure or harm a patient by improperly performing 'dry needling' may be subject to discipline of their physical therapy license up to and including revocation."

Mention made of existing or proposed regulatory mechanisms such as licensure, certification and registration.

- **The advisability of allowing independent practice or requiring collaboration or supervision**

"The Department further notes that the practice of 'dry needling' would also fall under the scope of practice of acupuncture. Unless they are also licensed as acupuncturist, physical therapists that wish to incorporate 'dry needling' in their physical therapy practice should not advertise or hold themselves out as an acupuncturist."

No evaluation of independent practice versus collaborative or supervised practice provided.

- **The advisability of interaction and cooperation between affected regulatory boards in evaluating issues that involve multiple practitioners, in investigating complaints, and in recommending appropriate discipline**

No mechanisms put in place to allow Physical Therapy Board and Acupuncture Board to interact.

No mention made of need for such collaboration.

Scope of Practice Expansion Needs Worksheet Rubric continued

- **FSMB Guideline**

Was guideline satisfied and need met?

- **Requirements for full and accurate disclosure by all health care practitioners as to their qualifications to provide health care services**

No mention made of mechanism by which Physical Therapists practicing Dry Needling would be required to provide evidence of training in said area of expertise. No mention made of mechanism by which Physical Therapists piercing skin would be required to provide evidence of training in Acupuncture needle technique and safety guidelines as recommended by the World Health Organization for practitioners utilizing Acupuncture needles to effect therapeutic treatments.[#]

Licensed Acupuncturists in the state of Illinois, by virtue of their practice act, are required to have completed 1360 hours in Needle Technique classroom and clinical training/internship.

Licensed Acupuncturists in the state of Illinois are required to pass the Clean Needle Technique course regulated by ACAOM.

Licensed Acupuncturists in the state of Illinois are required to complete Continuing Education Units in Acupuncture in order to maintain their license.

- **Details, rationale, and ethics of any proposals to bypass licensing or regulatory requirements in allowing scope of practice changes, the implications for other practitioners, and the effect on patient safety**

IDFPR is repository of Physical Therapy and Acupuncture Practice Acts.

No mention made of the effect of requested changes on public health and safety.

No mention made of how an acupuncture needle qualifies as an assistive device.

No mention made of justifications for PT scope of practice expansion to include penetration of the derma.

The only mention made of the implications for other practitioners is to acknowledge that Dry Needling is also within the scope of practice of Acupuncturists. No mention is made of the scope of practice of physicians licensed to practice medicine in all its branches.

- **Financial impact and incentives related to and affecting the scope of practice changes.**

No study made of financial impacts.

However, patient populations receiving Dry Needling will equate such treatment as being Acupuncture, since both are delivered via needle insertion and the practice of Acupuncture considerably predates that of Dry Needling. ".....The Department further notes that the practice of 'dry needling' would also fall under the scope of practice of acupuncture....."

With lack of state mandated and regulated Dry Needling education and clinical training hours, poorly performed Dry Needling will be perceived as poorly performed Acupuncture.

No mention made of financial incentives resulting from expansion of scope of practice by Physical Therapists to include Dry Needling. In terms of public access, generally Acupuncture treatments, since they are not reimbursed by Medicare/Medicaid, are less expensive than Physical Therapy treatments.

What role does Medicare/Medicaid billing codes play in defining Scope of Practice in regards to Acupuncture, Dry Needling and Intramuscular Manual Therapy?

The Centers for Medicare & Medicaid Services define Dry Needling as Acupuncture.⁸² The Agency for Healthcare Research and Quality (AHRQ), a division of the National Institute of Health, in a Technology Assessment published by The U.S. Department of Health and Human Services, Public Health Service also corroborates that “Acupuncture, in the strictest sense, refers to the insertion of dry needles, at specially chosen sites for the treatment or prevention of symptoms and conditions.”⁸³

In their Medical Policy Reference Manual dated 3/2012, BlueCross BlueShield writes “Dry needling for musculoskeletal conditions is considered experimental / investigative and it does not meet TEC criteria #2-5.”⁸⁴ (Please see Appendix I for BlueCross BlueShield Medical Policy Reference Manual 8.01.018 – Dry Needling.) The policy goes on to state:

“This procedure [Dry Needling] should be reported with the unlisted physical medicine code. Do not report dry needling with the CPT® codes used to report trigger point injection(s).”⁸⁵

Medicare, while investigating a case involving a doctor who was billing for “Dry Needling” therapy, ruled that “to bill Medicare, doctors need to make an actual injection.”⁸⁶ Assistant U.S. Attorney Kevin Doyle explains: “There is a claim code for trigger point injections. The only code for Medicare that would cover something like dry-needling would be an acupuncture code.”⁸⁷ Acupuncture is a non-covered procedure federally. (Please see Appendix J for text of Rutland Herald news article.)

“The only code for Medicare that would approve for something like dry-needling would be an acupuncture code.”⁸⁸ (Assistant U.S. Attorney Kevin Doyle)

Medicare billing procedures for Dry Needling are as follows:

“‘Dry needling’ of ganglion cysts, ligaments, neuromas, tendon sheaths and their origins/insertions are non-covered procedures. Medical necessity for injections of more than **two** sites at **one** session or for **frequent** or **repeated injections** [emphasis added] is questionable. Such injections are likely to result in a request for medical records which must evidence careful justification of necessity.”⁸⁹

Neither the Center for Medicare & Medicaid Services nor Trailblazer Health Enterprises recognize the American Physical Therapists Association/American Association of Orthopaedic Physical Therapists use of term Intramuscular Manual Therapy as a terminology for describing the insertion of Dry Needles/Acupuncture for therapeutic purposes. As stated previously, the Centers for Medicare & Medicaid Services does not reimburse for Dry Needling or Acupuncture services.⁹⁰

The Centers for Medicare & Medicaid Services (CMS), as administered by Trailblazer Health Enterprises, has specific medical definitions attached to Physical Therapy treatment nomenclature. Manual Therapy is a specific treatment modality that is compensated for under Current Procedural Terminology coding used for Physical Medicine and Rehabilitation Services, as administered by Physical Therapists.

(Please see Appendix K for Centers for Medicare & Medicaid Services: Physical Services.) Those definitions are as follows:

“97140 © Manual therapy

Manual therapy such as mobilization, manipulation, manual traction and manual lymphatic drainage.

“Myofascial Release/Soft Tissue Mobilization: This procedure may be medically necessary for the treatment of restricted motion of soft tissues involving the extremities, neck and/or trunk. Skilled manual techniques (active and/or passive) are applied to effect changes in the soft tissues, articular structures, neural or vascular systems. Examples include: Facilitation of fluid exchange. Restoration of movement in acutely edematous; muscles. Stretching of shortened connective tissue.

“Manipulation: CPT description for code 97140 includes manual therapy and techniques such as manipulation, soft tissue mobilization or joint mobilization. Individual techniques should not be separately coded or billed since it is a time-based code. All techniques applied on the same date of service should be totaled into the time calculated for the code. This procedure may be medically necessary as an adjunct to other therapeutic procedures such as those represented by code 97110, 97112 or 97530.

“Joint Mobilization: This procedure may be medically necessary as an adjunct to therapeutic exercises when loss of articular motion and flexibility impedes the therapeutic procedure. CPT description for code 97140 includes manual therapy and techniques such as manipulation, soft tissue mobilization or joint mobilization.”⁹¹

**Are Physical Therapy national organizations,
through promotion of Dry Needling/Intramuscular Manual Therapy,
seeking to develop a parallel therapeutic system of Acupuncture?**

Nationally, Physical Therapists are represented by several organizations: the Federation of State Boards of Physical Therapy, the American Academy of Orthopaedic and Manual Physical Therapists and the American Physical Therapy Association. Together and separately, each of these organizations have issued statements either in support of Dry Needling, in support of scope of Physical Therapy practice expansion to include Dry Needling or both.

On March 8, 2010, the Federation of State Boards of Physical Therapy (FSBPT) published the “Intramuscular Manual Therapy (Dry Needling) Resource Paper.” (Please see Appendix L for the FSBPT “Intramuscular Manual Therapy/Dry Needling Resource Paper.”) The opening statement of this paper asserts:

“It is not unusual for a state licensing board to be asked for an opinion as to whether or not an evaluative technique, treatment, or procedure is within the scope of practice for that given profession. It is as important to base regulation on evidence, when possible, as it is to base practice on evidence.”⁹²

However, the Federation of State Medical Boards (FSMB) does *not* recommend promoting scope of practice expansion solely through state licensing boards. In their often cited report, *Assessing Scope of Practice in Health Care Delivery: Critical Questions in Assuring Public Access and Safety*, the FSMB advocates a process by which state regulatory boards *and* state legislatures work together in tandem when exploring requests to create, change, or expand scope of practice, supported by verifiable needs for those proposed changes in scope of practice:

“The Federation has formulated a set of Guidelines to be used by State regulatory boards **and legislatures** when considering requests for creation or expansion of scopes of practice. The Guidelines are designed to assist policy makers in assuring that all practitioners are prepared, by virtue of **education** and **training**, to provide services authorized in their scopes of practice in a safe, effective and cost efficient manner.”⁹³ [emphasis added] (Please see Appendix M for FSMB’s *Assessing Scope of Practice in Health Care Delivery: Critical Questions in Assuring Public Access and Safety*.)

The American Academy of Orthopaedic Manual Physical Therapists (AAOMPT) Position Statement (2010) on Dry Needling is as follows: “*It is the Position of the AAOMPT Executive Committee that dry needling is within the scope of physical therapist practice.*”⁹⁴ The Supporting Statement immediately following this statement reads:

“Dry needling is a neurophysiological evidence-based treatment technique that requires effective manual assessment of the neuromuscular system. **Physical therapists are well trained to utilize dry needling in conjunction with manual physical therapy interventions. Research supports** that dry needling improves pain control, reduces muscle tension, normalizes biochemical and electrical dysfunction of motor endplates, and facilitates an accelerated return to active rehabilitation.” [emphasis added].⁹⁵ (Please see Appendix N for text of AAOMPT webpage Position Statement.)

However, in contrast to the AAOMPT Statement asserting that “Physical therapists are well trained to utilize dry needling in conjunction with manual physical therapy interventions,”⁹⁶ the American Physical Therapists Association’s (APTA) 2012 Resource Paper entitled *Physical Therapists and the Performance of Dry Needling* notes that:

“The education of physical therapists includes anatomy, histology, physiology, biomechanics, kinesiology, neuroscience, pharmacology, pathology, clinical sciences, clinical interventions, clinical applications, and screening. Much of the basic anatomical, physiological, and biomechanical knowledge that dry needling uses is taught as part of the core physical therapist education; the **specific dry needling skills are supplemental to that knowledge.** “**Currently dry needling is not specifically included in entry-level education for physical therapists; however some physical therapist education programs have begun including it in their curriculum**” [emphasis added].⁹⁷ (Please see Appendix O for APTA *Resource Paper, Physical Therapists and the Performance of Dry Needling*.)

Licensed Acupuncturists, however, are receiving education in Acupuncture/ashi/myofascial trigger point location and needling technique classroom and clinical education. Individuals who attain a LAc certification undergo a rigorous training program at a minimum standard of three academic years, 1490 hours in Acupuncture, including point location and needle technique. Of the 1490 hours in Acupuncture, 660 hours must be clinical hours, in other words, hours spent practicing Acupuncture under the supervision of a LAc. In addition, LAc’s are nationally required to be certified in Clean Needle Technique and must complete Continuing Education Units in order to maintain their licensure.⁹⁸

The AAOMPT Support Statement for the inclusion of Dry Needling into Physical Therapist practice notes positive clinical Dry Needling research as a second determining factor in finding for Dry Needling to be a justified expansion of Physical Therapy scope of practice: “**Research supports** that dry needling improves pain control, reduces muscle tension, normalizes biochemical and electrical dysfunction of motor endplates, and facilitates an accelerated return to active rehabilitation.⁹⁹” However, the AAOMPT Support Statement omits further mention of any such research. On the other hand, the APTA Dry Needling Resource Paper summarizes Research Review to date:

“The remaining 46 individual studies were reviewed by a member expert in research analysis using a standardized review form. The results of the review included 10 case reports (n<10), 1 case series (n> 10), 12 observational studies, and 23 randomized controlled trials (RCT). These 46 studies were reviewed using a rating scale from 0-5, with 5 indicating the highest level of quality and highest level of support for dry needling. **The median quality of the research was 3; the median support of dry needling was 2.** Of the 23 RCTs, again using a rating scale from 0-5, with 5 indicating the highest level of quality and highest level of support for dry needling, the median quality of the research was 4; **the median support of dry needling was 3.** One case study of the 10 noted above was not included in the rating of the evidence. This case addressed an adverse event of a cervical epidural hematoma from dry needling performed by a physician.¹⁰⁰”

This is hardly conclusive evidence for the efficacy and usefulness of Dry Needling by Physical Therapists.

In contrast, the therapeutic effect of Acupuncture has been recognized as significant and worthy of continued research by both the National Institutes of Health¹⁰¹ and the World Health Organization.¹⁰²

The World Health Organization reports that diseases, symptoms or conditions for which Acupuncture has been proved - through controlled trial - to be an effective treatment include: “Adverse reactions to radiotherapy and/or chemotherapy; Allergic rhinitis (including hay fever); Biliary colic; Depression (including depressive neurosis and depression following stroke); Dysentery, acute bacillary; Dysmenorrhoea, primary; Epigastralgia, acute (in peptic ulcer, acute and chronic gastritis, and gastrospasm); Facial pain (including craniomandibular disorders); Headache; Hypertension, essential; Hypotension, primary; Induction of labour; Knee pain; Leukopenia; Low back pain; Malposition of fetus, correction of; Morning sickness; Nausea and vomiting; Neck pain; Pain in dentistry (including dental pain and temporomandibular dysfunction); Periarthritis of shoulder; Postoperative pain; Renal colic; Rheumatoid arthritis; Sciatica; Sprain; Stroke; Tennis elbow.¹⁰³ One much studied result of Acupuncture is its analgesic properties. The WHO reports that the proportion of chronic pain relieved by Acupuncture is generally in the range 55-85%, which compares favorably with that of potent drugs (morphine helps in 70% of cases) and far outweighs the placebo effect (30-35%).¹⁰⁴

The previous section explored the definition of scope of practice and scope of practice expansion and examined guidelines for establishing both. To summarize, the FSMB emphasizes: “Requests to create, change, or expand scope of practice should be supported by a verifiable **need** [emphasis added] for the proposed change.”¹⁰⁵

Conversely, the APTA Dry Needling/Intramuscular Manual Therapy paper based its case for Dry Needling/Intramuscular Manual Therapy being included into Physical Therapy scope of practice by investigating the answers to the following two questions:

*“1) Have you adopted a formal or established an information statement on the use of dry needling? and,
2) Do you have a formal or informal process for including dry needling, or other “new” tests, measures, or interventions into your scope of practice for physical therapists/physiotherapists?”*¹⁰⁶

Responses to these questions establish recent publications, internal processes and procedures. They do not establish verifiable needs supported by patient safety and public protection objectives.

The FSMB expands upon the course of action necessary to pursue when assessing the need for scope of practice expansion:

“All discussions about changes in scope of practice should begin with a basic understanding of the definition of the practice of medicine and recognition that the education received by physicians differs in scope and duration from other health care professionals. Non-physician practitioners may seek authorization to provide services that are included in the definition of the practice of medicine under existing state law. In evaluating these requests, policy makers should examine a variety of issues, including: economic impact on health care delivery; standards for education, training and examination; practice parameters; and regulatory mechanisms. Patient safety and accountability should be the most important factors in establishing expectations and limitations associated with scope of practice changes.”¹⁰⁷

The national organizations involved in the promotion of Dry Needling/Intramuscular Manual Therapy practice for Physical Therapists

1. Have not followed FSMB recommended guidelines to pursue scope of practice creation or expansion through both regulatory and legislative means
2. Have not demonstrated that national Dry Needling/Intramuscular Manual Therapy education and/or educational guidelines exist
3. Have not demonstrated a verifiable research driven need for Dry Needling/Intramuscular Manual Therapy as performed by Physical Therapists
4. Have not demonstrated a verifiable public health care need for the expansion of Physical Therapy Scope of Practice to include Dry Needling/Intramuscular Manual Therapy

The *White House Commission on Complementary and Alternative Medicine Policy Final Report* (2002) expresses additional concerns when considering scope of practice expansion:

“In some states, acupuncture can be practiced by professional acupuncturists who have spent several years in training or by practitioners of another health modality (e.g., a physician, dentist, podiatrist, physical therapist, or chiropractor) with less, limited, or no additional training or experience in acupuncture. The situation is further complicated by state variations in licensing requirements and scope-of-practice regulations.”¹⁰⁸

This same Commission then goes on to state that four important issues of access and delivery concern both the public and practitioners when considering issues of scope of practice expansion within the Complementary and Alternative Medicine fields:

- “Determining the extent of the public's choice among health care modalities.
- Preserving Complementary and Alternative Medicine (CAM) styles and traditions that have been valued by both practitioners and consumers
- Maintaining competition in the provision of CAM and other health services
- Providing opportunities for appropriately trained and qualified health practitioners to offer the full range of services in which they are trained and competent”¹⁰⁹

If verifiable public need and safety are not the propelling forces behind Physical Therapy's desire to appropriate Acupuncture by renaming it Dry Needling, are there other contributing theoretical justifications?

The APTA's *Dry Needling Resource Paper* states: "There are several Dry Needling conceptual and practical models including, but not limited, to:

1. Superficial Dry Needling (SDN) - Baldry Model
2. Deep Dry Needling (TrP-DN) - Travell Model
3. Radiculopathy Model – Intramuscular Stimulation (IMS) Gunn Model"¹¹¹

Dommerholt writes: "Although muscle needling techniques have been used for thousands of years in the practice of acupuncture, there is still much uncertainty about their underlying mechanisms. The acupuncture literature may provide some answers, however, due to its metaphysical and philosophical nature, it is difficult to apply traditional acupuncture principles to the practice of using acupuncture needles in the treatment of MPS [multiple pain syndromes]." ¹¹²

Though perhaps difficult, it is possible for Acupuncturists, with an education spanning both Western biomedical and Eastern medical concepts, to compare the three APTA sanctioned Dry Needling Models with corresponding and pre-existing Acupuncture practical medical theory.

1. BALDRY MODEL – Superficial Dry Needling

In the third edition of his book, *Acupuncture, Trigger Points and Musculoskeletal Pain*, Baldry discourses:

"It is because traditional Chinese acupuncture is perforce inextricably bound up with archaic concepts concerning the structure and function of the body that most members of the medical profession in the Western world view it with suspicion and skepticism.

"My reason for writing this book is to bring to the attention of doctors and physiotherapists a 20th-century-evolved scientific approach to acupuncture for the relief of pain emanating from trigger points in the myofascial pain syndrome and from tender and trigger points in the fibromyalgia syndrome, and to take acupuncture (so far as the alleviation of nociceptive pain of this type is concerned) out of the category of alternative or complementary medicine by describing a method of employing it that has been developed as a result of observations made by physicians during recent years and is now fast becoming incorporated within the framework of present-day orthodox medical practice."¹¹³

In Travell & Simons' *Myofascial Pain and Dysfunction: The Trigger Point Manual Volume I* (1999), mention is made of Baldy's model of Acupuncture and evidence given as to its and by default, Acupuncture's, therapeutic mechanism:

"Another version of "acupuncture" used for the treatment of TrPs involved insertion of the needle to only a depth of approximately 4 mm into the skin and subcutaneous tissue overlying the TrP.^{113a} Compared to needle penetration of the TrP, this insertion technique must involve an entirely different mechanism that depends on nervous system modulation of TrP activity. This technique requires a controlled clinical study to confirm its efficacy for TrPs and, if effective, needs further research to identify its mechanism. Ward¹¹⁴ examined 12 acupuncture sites that were also common TrP sites in either a trapezius or infraspinatus muscle for the electrical activity characteristic of an active locus in a TrP. Characteristic [meaning that the acupuncture point sites selected evidenced identifying characteristics of trigger points and therefore were one and the same] endplate spike activity was observed in every case."¹¹⁵

Not wishing to acknowledge the historical origins of Acupuncture, nor wanting to acknowledge the basis of its differential diagnostic theory does not serve to eradicate Acupuncture's medical discipline nor nullify its beneficial validity. Baldry's search for a meaningful method for relieving musculoskeletal pain appears to have taken him knowingly to the practice of Acupuncture. Clearly, Baldry was founding his methods and research on Acupuncture.

2. TRAVELL MODEL – Deep Dry Needling

In Travell & Simons' *Myofascial Pain and Dysfunction: The Trigger Point Manual Volume I* (1999), the relationships between Acupuncture and Dry Needling are explored:

"Classical acupuncture points are identified as prescribed points along meridians defined by ancient Chinese documents. As Melzack, *et al.*¹¹⁶ showed, the ancient Chinese clinicians were astute enough to recognize the importance of many common TrP (trigger point) locations and to include them in their charts of acupuncture points for pain.

"Currently, there are a number of practitioners of acupuncture who use a modified definition of acupuncture points which would selectively identify TrP locations. Belgrade¹¹⁷ states that "tender points are acupuncture points and can often be chosen for therapy."

"As reported by Melzack, *et al.*,¹¹⁸ there is a high degree of correspondence (71% based on their analysis) between published locations of TrPs and classical acupuncture points *for the relief of pain*.

“If one defines an acupuncture point for treatment of pain as a tender spot, one is using a cardinal definition of TrPs as a criterion for an acupuncture point, which would increase the likelihood of treating a TrP and calling it an acupuncture point.... Central myofascial TrPs occur in the midfiber region of a muscle belly.

“One student of acupuncture, Pomeranz,¹¹⁹ emphasized the importance of the Deqi phenomenon for identifying an acupuncture point. The Deqi phenomenon is described as a sensation of fullness, distension, and pins and needles when the inserted needle encounters the acupuncture point. However, essentially the same sensory phenomenon is frequently observed when injecting a TrP and the local twitch response is observed.¹²⁰

“In conclusion, frequently the acupuncture point selected for the treatment of pain is actually a TrP.”¹²¹

“*The acupuncture point selected for the treatment of pain is actually a Trigger Point.*”¹²¹ (Travell & Simons’ *The Trigger Point Manual*)

Mark Seems, PhD, LAc, and founding director of Tri-State College of Acupuncture, in *A New American Acupuncture* concurs and cites the creation of de qi/local muscle twitch response as evidence of acupuncture point stimulation:

“Acupuncture needles are inserted into muscular and connective soft tissue, not simply into spaces between bones and tendons. When a needle succeeds in creating the celebrated de qi response indicating the “arrival of qi,” the needle has actually caused a myofascial response, whereby the muscle underlying the needle begins to contract and “grasp” the needle.”¹²²

3. GUNN MODEL – Intramuscular Stimulation (IMS)

In the article “Acupuncture Loci: A Proposal for Their Classification According to Their Relationship to Known Neural Structures” (1976), Chan Gunn, PhD, suggests:

“As a first step toward acceptance of acupuncture by the medical profession, it is suggested that a new system of acupuncture locus nomenclature be introduced, relating them [acupuncture points] to known neural structures.”¹²³

Gunn, as corroboration to this proposal, quotes:

“Dr. P.D. Wall commenting on acupuncture for pain therapy in the 1974 International Symposium on Pain, divides acupuncture into two categories:

1. The classical theory and its application based on the ancient concept which depends on the rebalancing of the Yin and Yang and insertion of needles into classical loci situated on meridians
2. The contemporary version which constitutes a gradual extension of the ancient theories – classical loci, for instance, are moving closer and closer to the dermatomes of the injury and needles with or without electrical stimulation are being used.”¹²⁴

Gunn gives details of his study’s attempt to classify Acupuncture points:

“It was noted that many of these [acupuncture] loci (35) were located at known sites of muscle motor points. These were classified as Type I.

“In this study, Type I loci were demonstrated to be muscle motor points by evoking muscle twitches in response to minimum electrical stimulation using a standard calibration-stable stimulator with variable control of output.”¹²⁵

Gunn then concludes:

“Many workers in acupuncture also feel that a new system for the classification of acupuncture loci based on their relationship to known neural structures is overdue.”¹²⁶ (Please see Appendix P for full text of Gunn’s article, “Acupuncture Loci: A Proposal for Their Classification According to Their Relationship to Known Neural Structures.”)

However, in a Peterhouse Profile (2002), Gunn seemingly abandons his earlier interest in Acupuncture.

When asked for an explanation of the relationship between IMS and Acupuncture, Gunn replies:

“IMS borrows its needle technique from traditional Chinese acupuncture, but updates and enhances it with anatomy and neurophysiology. I like to think that it brings Western and Eastern medicine together. But whereas medical diagnosis and examination, and a knowledge of anatomy, are not applicable in acupuncture, they are crucial to IMS. It follows that prompt objective results can be anticipated from IMS, which is not always true of acupuncture. But my research does provide the theoretical underpinning that explains why the ancient technique of acupuncture often does work.”¹²⁷

Gunn’s assessment of Acupuncture education is inaccurate. Today, in the United States, over 50 accredited¹²⁸ professional colleges teach a diversity of styles of health care utilizing Acupuncture, Chinese herbology, manual techniques such as tuina (Chinese therapeutic massage), nutrition, and exercise/breathing therapy. Individuals who attain this degree undergo a rigorous training program at a minimum standard of three academic years that contains 450 hours in biomedical science (biology, anatomy, physiology, western pathology, and pharmacology), 90 hours in patient counseling and practice management, and 1365 hours in Acupuncture. Of the 1490 hours in Acupuncture, 660 hours must be clinical hours.¹²⁹

In *Myofascial Pain and Dysfunction: The Trigger Point Manual Volume I* (1999), Travell & Simons' give this explanation of the IMS technique:

"Gunn recommends identifying TrPs by spot tenderness in a palpable taut band and then using **acupuncture techniques**. He first identifies the TrP as a spot of localized tenderness in a taut band and then identifies the precise skin location through which to insert the acupuncture needle using a dermatometer (point finder or skin resistance detector). He then inserts the needle through this location to the TrP where he feels a **"grabbing" sensation** at the needle tip, which is often associated with aching pain, as the needle enters the TrP. An LTR [local twitch response] is often observed. Gunn identifies this TrP injection technique as **Intramuscular Stimulation**. [emphasis added]^{130, 131}

As previously noted, the de qi sensation, local muscle twitch response and "grabbing sensation" achieved upon needle insertion are all descriptions of the same desired therapeutic and healing phenomenon accessed through Acupuncture needle insertion by Acupuncturists.

Kiiko Matsumoto, LAc (Licensed Acupuncturist), a collaborator with Gunn in his original 1976 study (please see Endnote B), and Stephen Birch, LAc, summarize the interaction of Acupuncture and western medicine:

"The human body is an intricate set of systems that interact with each other as a functional whole. The nervous, muscular, skeletal, digestive, respiratory, reproductive, excretory, hormonal, and vascular systems each have distinct characteristics and properties. Yet none of these systems are separate entities. When working synchronously they constitute what we call, in a gross sense, "life." All parts of the body are to some degree innervated and vascularized. These systems provide a medium that connects the parts through a series of complex interactions and feedback mechanisms. Incorporated within the nervous and vascular systems are various sub-systems such as the hormonal messengers. Each sub-system is itself a categorization that represents another set of specific interactions.

"Within the body one system is amazingly pervasive and versatile: the connective tissue. In effect, the connective tissue is a system that totally interconnects all parts of the body at each level from the anatomical to the microscopic. Connective tissues can be found within every single organelle, within every cell, and within every tissue of the body. Most significant for Oriental medical theory and practice are the properties such energy generation and conduction that these tissues demonstrate.

"The various membranes and fasciae discussed in Oriental Medical literature are composed of connective tissues. Although modern anatomical, physiological, and embryological knowledge is much more detailed than the discussions in early Chinese medical texts, the essential anatomical details are the same... It is thus possible and intriguing, and in fact necessary to propose and examine models by which we may explain classical Chinese medical concepts using the data of Western science."¹³²

The Council of Colleges of Acupuncture and Oriental Medicine (CCAOM) Position Paper on Dry Needling succinctly brings this discussion to a close:

“It is clear that other professions such as physical therapy and others also recognize the efficacy of Acupuncture and its various representations such as Dry Needling due to the fact that they are attempting to use Acupuncture and rename it as a physical therapy technique.”¹³³

*“It is clear that other professions such as physical therapy also recognize the efficacy of Acupuncture and its various representations such as Dry Needling due to the fact that they are attempting to use Acupuncture and rename it as a physical therapy technique.”*¹³³ CCAOM Position Paper on Dry Needling

Endnote B: “Matsumoto, drawing from various sources, including recent Chinese texts, selected for description 70 commonly used and reportedly effective acupuncture loci. This study analyzes their locations on the body in relationship to known neural structures. Loci were determined according to Matsumoto’s descriptions and other references.”¹³⁴ [Gunn, C. Chan. "Acupuncture Loci: A Proposal for Their Classification According to Their Relationship to Known Neural Structures." *American Journal of Chinese Medicine* 4.No. 2 (1976): 183+. Print]

Is Dry Needling/Intramuscular Manual Therapy, when practiced by Physical Therapists, safe?

The Federation of State Boards of Physical Therapy, in their Fall 2011 Federation Forum newsletter writes: “Dry needling is a topic that most physical therapy boards had not even discussed a few short years ago. However, now, it is a significant issue in a number of states.”¹³⁵ Because of the newness of the this recent expansion of scope of practice by Physical Therapists to include Dry Needling as a therapeutic option, there are few clinical research trials evaluating the safety of Dry Needling *as performed by Physical Therapists*. However, some possible adverse event situations are addressed by programs promoting Dry Needling education for Physical Therapists. One such class is called *Dry Needling, Orthopedic Approach™* and is taught by Yun-tao Ma, LAc, PhD:

“Integrative Dry Needling, Orthopedic Approach™ is a contemporary dry needling therapy developed by Yun-tao Ma, PhD, and based on the works of Dr Janet Travell (1982, 1992), Dr Chan Gunn (1978), clinical evidence, evidence-based research and Dr Ma’s own 40 years of clinical and research experience and neuroscience training.”¹³⁶

In his companion book to Integrative Dry Needling, Orthopedic Approach™ entitled *Biomedical Acupuncture for Sports and Trauma Rehabilitation: Dry Needling Techniques*,¹³⁷ Ma addresses “Safety Issues in Dry Needling Acupuncture Practice:”

“PREVENTION OF NEEDLING ACCIDENTS: Understanding the Anatomy of Acu-Reflex Points

Each acu-reflex point (ARP) has specific anatomic features. ARPs on the limbs are relatively safe, but prolonged infection and swelling leading to muscular atrophy—mostly results of wet needling procedures—have been recorded. ARPs on the torso close to the internal viscera merit special caution for safe needling. The following areas must also be needled with caution:

1. Cervical area (posterior) from C1 to C2: This area contains vertebral arteries and the medulla oblongata.
2. Thoracic area from T1 to T12: The surface tissue is very close to the pleura and the lungs.
3. Lumbar area from L2 to L3: This area is near the lower part of the kidney.
4. Neck (lateral and front): This area is near big blood vessels and organs.
5. Chest: This area is near the lungs and heart.
6. Abdomen: This area is near the liver, spleen, and intestines.”¹³⁸

It should be noted that the Dry Needling, Orthopedic Approach™ class covers three days:

- *“Time and cost-effective preparation:* the Dry Needling Course includes preparatory home study using Dr Ma’s two textbooks and updated course manual, so that we don’t waste much time on introducing background theory and we are ready to roll from the first day. When the course ends on a Sunday, chiropractors and physical therapists are excited to get into the clinic on Monday and start using what they have learned.
- *Learning by immersion:* ALL THREE DAYS physical therapists and chiropractors are using needles under Dr Ma’s close supervision and meticulous instructions.”¹³⁹

In contrast, according to the National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM) Examination Study Guide for the Diplomate of Acupuncture Certification (Lac), all candidates for Licensed Acupuncturist certification have completed a minimum number of hours, 1490 classroom hours of academic course work, to qualify to take each required examination (see chart below). Completion of these hours of course work qualifies the applicant to sit for the following Acupuncture Certification Examinations as a “pre-graduate”. Additional hours are required for final certification. In addition to passing the below certification exams all candidates for NCCAOM Certification in Acupuncture must document successful completion of a clean needle technique (CNT) course. In regards to Clean Needle Technique (CNT), the Biomedicine module focuses on universal precautions and emergency situations in comparison to the Acupuncture with Point Location module which focuses on actual needling and its emergencies (e.g., needle angle and depth).¹⁴⁰

Following are actual excerpts of the **Study Guide for the Diplomate of Acupuncture Certification** from NCCAOM pertaining to needling technique topics for board examination.¹⁴¹

Examinations	Matriculation Date	Completed Hours
*Acupuncture with Point Location *Biomedicine	Matriculating Prior to July 1, 2004	1,350
*Foundations of Oriental Medicine	Matriculating on or after July 1, 2004	1,490

***Required for the Acupuncture Certification Program**

NCCAOM® Examination Study Guide for the Diplomate of Acupuncture Certification (2012): Excerpts

Sub Domain A6: Point location (images only)

A 1 (c): Five Phase/Element points

A 1 (d): Antique points (Jing Well, Ying Spring, Shu Stream, Jing River, He Sea)

A 1 (j): Extraordinary meridian

A 2 (a): Distal/local, adjacent points

A 2 (b): Based on TCM muscular channel theory

A 2 (d): Front-Mu (Alarm) points, Back-Shu (Associated) points, and their combination(s)

A 2 (e): Lower He-Sea (Uniting) points

A 2 (g): Eight Influential points

A 2 (h): Four Sea points

A 2 (j): Five Shu (Transporting) points according to TCM

A 2 (k): 5 Luo-Connecting points, Yuan-Source (Primary) points, and their combinations

A 2 (j): Five Shu (Transporting) points according to TCM

A 2 (k): 5 Luo-Connecting points, Yuan-Source (Primary) points, and their combinations

A 2 (o): Extra Points

A 2 (p): Auricular points

A 2 (q): Scalp points

A 2 (r): Coalescent points

A 2 (s): Crossing points

A 2 (u): Confluent points

A 2 (v): Command points

For all:

- Ability to recognize (e.g., locate) and administer needling to points contained in above listed points category

A 2 (c): Points along corresponding channels to affected cutaneous regions

- Knowledge of the cutaneous regions
- Knowledge of acupuncture/points along the cutaneous regions
- Ability to identify points to affect the cutaneous regions

A 2 (i): Based upon causative factor

- Skills to administer points to treat causative factor(s) according to TCM

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NCCAOM® Examination Study Guide for the Diplomate of Acupuncture Certification (2012): Excerpts
Subdomain A4: Needle selection (e.g., filiform, three-edges, plum-blossom, press and intradermal needles)

- Knowledge of acupuncture needles
- Knowledge of acupuncture needle use
- Knowledge of acupuncture needle applications, precautions
- Ability to utilize appropriate acupuncture needles
- Skills to administer appropriate acupuncture needles

Sub Domain A5: Identification of correct point location

- Knowledge of acupuncture points
- Knowledge of acupuncture point location theories and concepts
- Knowledge to identify correct point location
- Ability to identify correct point location
- Skills to identify correct point location

Domain B: Treatment Techniques and Mode of Administration (20% of total exam)

Sub Domain B1: Patient position

- Knowledge of correct positioning of the patient
- Knowledge of positioning techniques and concepts
- Ability to correctly position the patient
- Skills to decide and execute correct positioning of patient

Sub Domain B2: Needle insertion

- Knowledge of needle insertions with appropriate angle and depth
- Knowledge of safety rules and regulations concerning needle insertion
- Ability to insert needles to the appropriate angle and depth
- Skills to insert needles at correct angle and depth

B 2 (a): Angle / B 2 (b): Depth / B 2 (c): Needle insertion technique

B 3 (a): Lifting & thrusting / B 3 (b): Twirling or rotating

Sub Domain B5: Precautions based upon anatomy

- Knowledge of human anatomy
- Knowledge to consider anatomy to determine depth, precautions, and contraindications
- Ability to apply knowledge of human anatomy to safely administer acupuncture treatment techniques
- Skills to apply knowledge of human anatomy to safely administer acupuncture treatment techniques

Sub Domain B6: Removal of needles

- Knowledge of safe and correct removal of acupuncture needle(s)
- Ability & Skills to remove needles with correct techniques

Domain C: Use of Modalities or Agents (25% of total exam) / Sub Domain C4: Intradermal needles

- Knowledge of techniques, cautions and contraindications of intradermal needles
- Knowledge of different types of intradermal needles

Sub Domain C6: Electro acupuncture / Sub Domain C7: Electricity

C 7 (a): Micro current

- Knowledge of theories and purposes of micro current
- Knowledge of techniques, cautions and contraindications of micro current
- Knowledge of applying electricity using micro current
- Knowledge to treat the patient by applying electricity using micro current
- Ability & Skills to administer micro current

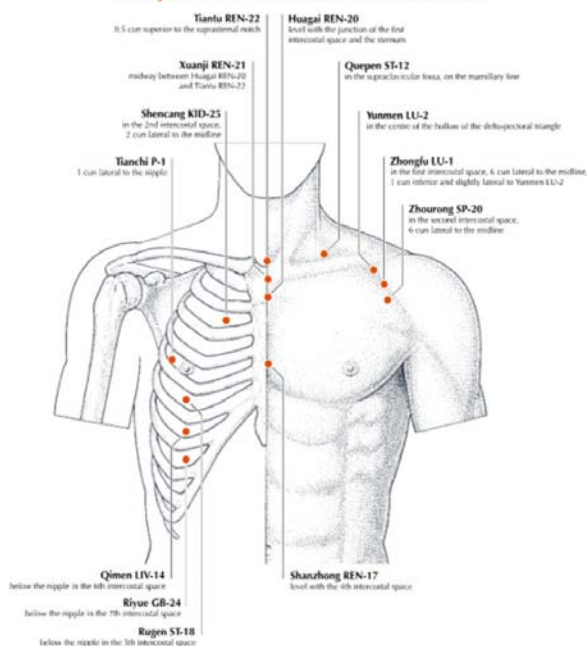
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The Department of Physical Therapy, Ben-Gurion University of the Negev, when advocating the practice of Dry Needling by Physical Therapists, offers the following caveat:

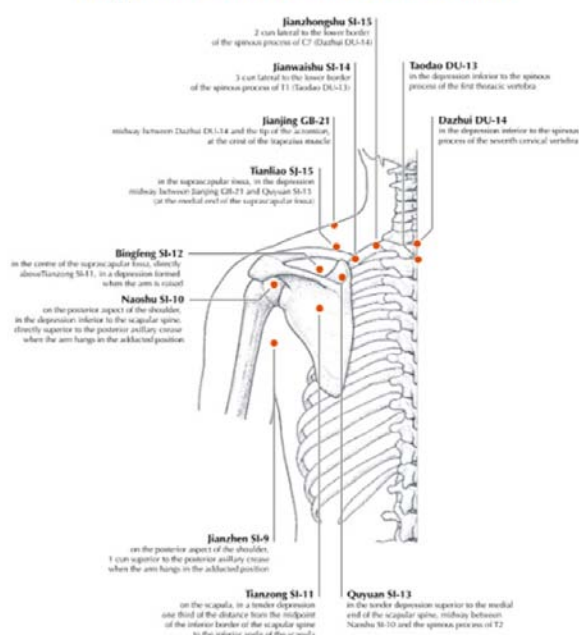
“The deep method of dry needling has been shown to be more effective than the superficial one for the treatment of pain associated with myofascial trigger points. Over areas with potential risk of significant adverse events, such as lungs and large blood vessels, we suggest using the superficial technique, which has also been shown to be effective, albeit to a lesser extent.”¹⁴²

In contrast, students of ACAOM, the Accreditation Commission for Acupuncture and Oriental Medicine, accredited schools study the location, insertion depth, and angle of insertion for minimally 361 Acupuncture points, not including special point locations. In Deadman’s Manual of Acupuncture, an ACAOM accepted text for the study of Acupuncture in the United States, locations for Acupuncture points are described both in terms of anatomical site, insertion depth and angle of insertion.¹⁴³

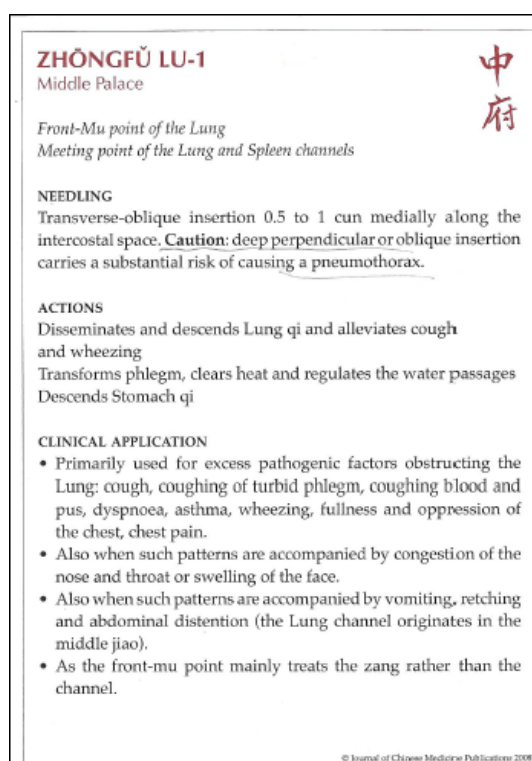
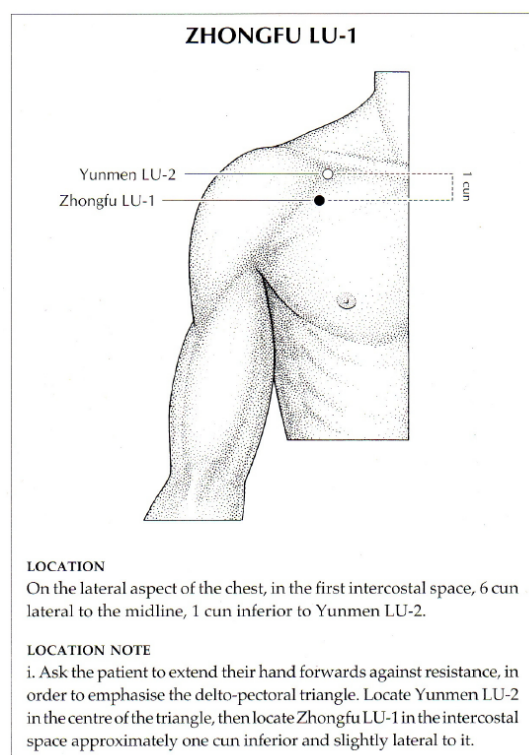
MAJOR POINTS OF THE CHEST



MAJOR POINTS OF THE UPPER BACK



The Deadman charts above only show major points located in the area of the lungs and pleural cavity and are unilateral in presentation. The actual points on these areas include LU1, LU2, ST12, ST13, ST14, ST15, ST16, ST18, ST19, SP17, SP18, SP19, SP20, SP21, HT1, SI9, SI10, SI11, SI12, SI13, SI14, SI15, UB11, UB12, UB13, UB14, UB15, UB16, UB17, UB18, UB19, UB20, UB41, UB42, UB43, UB44, UB45, UB46, UB47, UB48, KD21, KD22, KD23, KD24, KD25, KD26, KD27, PC1, SJ14, SJ15, GB21, GB22, GB23, GB24 and LV14 and total 57 Acupuncture point locations (please see End Note C for explanation of meridian abbreviations). In order to have an understanding of the completeness with which Licensed Acupuncturists have studied the human body, Acupuncture point location, and needle technique, that is angle and depth of insertion, please see Deadman flashcard of one point needled in this anatomical region, Lung Meridian, point number 1 (LU1).¹⁴⁴



In the above drawings, the accompanying text indicates recommended needle location, needle angle and needle depth information, patient positioning instructions and contraindications to needling instructions.

Endnote C: LU denotes Lung meridian, ST denotes Stomach meridian, SP denotes Spleen meridian, SI denotes Small Intestine meridian, UB denotes Urinary Bladder meridian, KD denotes Kidney meridian, GB denotes Gall Bladder meridian, PC denotes Pericardium meridian, SJ denotes San Jiao meridian, LV denotes Liver meridian. These are standard designations.

This is a more complete, and therefore safe, process of locating and needling points than the methods suggested by Dry Needling as used by Physical Therapy educators and advocates. Learning how to needle as a practitioner of Acupuncture requires significantly more classroom and clinical educational hours to complete than learning how to needle as a Physical Therapist. Realistic parity is not achieved when Physical Therapy advocates quote Acupuncture malpractice statistics as proof of the safety of Dry Needling by Physical Therapists. Although the process is similar, the preparation and training to perform Dry Needling by Physical Therapists is of vastly shorter duration and thereby rendered incomplete when compared with the needling education received by Licensed Acupuncturists performing Acupuncture. It is to be assumed that the Dry Needling patient safety will be similarly vastly incomplete and thereby rendered inadequate.

The National Chiropractic Council (NCC), a federal risk purchasing group which purchases Physical Therapy malpractice insurance on a group basis for its members, has similar misgivings regarding the safety of Dry Needling as performed by Physical Therapists:

“Proponents of the addition of dry needling to the scope of physical therapy maintain that trigger point dry needling does not have any similarities to acupuncture other than using the same tool. These same proponents of the technique **re-define** [emphasis added] traditional Chinese medicine as being based on a traditional system of energetic pathways and the goal of acupuncture to balance energy in the body. They emphasize the channel relationship of acupuncture points, de-emphasize or completely exclude the use of ASHI points, and emphasize that acupuncture is based on the energetic concepts of Oriental medicine diagnosis. They therefore define dry needling as different and distinct from acupuncture because it is based on Western anatomy.¹⁴⁵

“To allow physical therapists to use needles on patients without sufficient training constitutes a public health hazard.”¹⁴⁶ (National Chiropractic Council)

“However, these proponents fail to recognize that acupuncture schools teach both ‘western’ neurophysiological concepts along with ‘traditional’ meridian concepts. As such, acupuncturists are highly trained within both fields of medicine. In fact, the profession of Chinese medicine utilizes neurophysiological principles. As such, there is no such distinction between ‘eastern’ and ‘western’ [Dry Needling] acupuncture.¹⁴⁷”

“To allow physical therapists to use needles on patients without sufficient training constitutes a public health hazard. Based on the foregoing, the North Chiropractic Council will not provide malpractice insurance for any physical therapist who inserts needles and/or utilizes the technique of dry needling.”¹⁴⁸ (Please see Appendix Q for complete NCC letter.)

In 2005, CNA/HPSO (CNA/Health Care Providers Service Organization), a national company that insured 5,691 Physical Therapists that year, completed a landmark malpractice claims study for the field of Physical Therapy. Although CNA/HPSO does insure Acupuncturists, that company has not completed a similar malpractice study for the field of Acupuncture. However, two large prospective studies in the U.K. provided estimates of the rates of adverse events in regards to Acupuncture being performed by Acupuncturists. White et al. conducted a prospective survey of 32000 treatments and found that the rate of “significant” events were 14 per 10,000 Acupuncture visits.¹⁴⁹ None of these were deemed to be serious. MacPherson et al. conducted a prospective survey of 34000 Acupuncture treatments and found that there were **no** [emphasis added] reports of serious adverse events that required hospital admission or led to permanent disability or death.¹⁵⁰

Inserted, below is the Primary Injury Chart gathered from Physical Therapy malpractice statistics, 12/1/93 through 33/1/2006. This chart is from CNA Insurance PT Claims Study 1993-2006.¹⁵¹

6A Frequency by Primary Injury

Primary injury	Number of open and closed claims	Percentage of open and closed claims
Trauma including fractures	390	27%
Burns	263	18%
Delay in recovery	166	11%
Additional procedure required	132	9%
Injury not specified	85	6%
Loss of limb or use of limb	84	6%
Abrasion/irritation/laceration	78	5%
Emotional distress (as primary injury)	56	4%
Unknown	42	3%
Bruise or contusion	34	2%
Sprain/strain	29	2%
Neurological related	27	2%
Cracked/broken teeth	17	1%
Death from disease	15	1%
Infection	9	1%
Brain damage and/or paralysis	8	1%
Death from trauma	6	<1%
No injury	6	<1%
Personal injury – e.g., slip and fall, hit by object, etc.	5	<1%
Death not otherwise classified	3	<1%
Loss of organ or organ function	3	<1%
Suicide	3	<1%
Addiction	2	<1%
Cardiopulmonary arrest	1	<1%
Total	1,464	100%

Empirically, Physical Therapy, as a mode of healthcare delivery and by contrast to Acupuncture, presents with more numerous and more severe health care risks to its intended recipient.

Is Acupuncture, when practiced by Licensed Acupuncturists, safe?

In The Prospective Survey of Adverse Events and Treatment Reactions, a survey of members of the British Acupuncture Council involving 1848 **professional Acupuncturists** [emphasis added] providing 34,407 treatments, practitioners reported no serious adverse events:

“A total of 574 practitioner responded, 31% of the total population [of members of the British Acupuncture Council and practicing in the UK]. No serious adverse events were reported, where these were defined as requiring hospital admission, prolonging hospital stays, permanently disabling or resulting in death (95% CI; 0 to 1.1 per 10,000 treatments). This conclusion was based on data collected from one in three members of the British Acupuncture Council. Given that the whole membership delivers between one and a half and two million treatments a year, this is important evidence on public health and safety. When compared with medication routinely prescribed in primary care, the results suggest that acupuncture is a relatively safe treatment modality.”¹⁵²

“The most important finding from this survey is that there were no serious adverse events associated with 34,407 treatments provided by **professional acupuncturists** [emphasis added]. We estimate that, with 95% confidence, the underlying serious adverse event lies between 0 and 1.1 per 10,000 treatment episodes. Interestingly, the prospective survey of Yamasita et al reported 94 minor adverse events associated with 65,482 treatments,¹⁵³ a rate of 1.4 per 1,000 treatments, very similar to the 1.3 (95% CI: 0.9 to 1.7) of this survey.”¹⁵⁴

*“The most important finding from this survey is that there no serious adverse events associated with 34,407 treatments provided by professional acupuncturists.”*¹⁵⁴ (MacPherson et al: A Prospective Survey of Adverse Events and Treatment Reactions)

The National Center for Complementary and Alternative Medicine and the Agency for Health Research and Quality, divisions of the National Institutes of Health, agrees with this assessment of risks and adverse events associated with Acupuncture:

“Acupuncture is generally considered safe when performed by an **experienced practitioner** [emphasis added] using sterile needles. Relatively few complications from acupuncture have been reported. Serious adverse events related to acupuncture are rare, but include infections and punctured organs. Additionally, there are fewer adverse effects associated with acupuncture than with many standard drug treatments (such as anti-inflammatory medication and steroid injections) used to manage painful musculoskeletal conditions like fibromyalgia, myofascial pain, osteoarthritis, and tennis elbow.”¹⁵⁵ (Please see Appendix R for NCCAM/AHRQ publication “Get the Facts: Acupuncture for Pain.”)

A useful method of analysis is comparison. specifically the safety of Acupuncture when performed by Acupuncturists versus the incidence of adverse events occurring from a frequently prescribed class of medications for pain, non-steroidal anti-inflammatory drugs (NSAIDs). A “Prospective Survey of Adverse Events and Treatment Reactions” makes a safety comparison between Acupuncture treatments versus the use of NSAIDs:

“In comparing acupuncture’s safety to the record of drug-related adverse events, a comparison can be made with non-steroidal anti-inflammatory drugs (NSAIDs), which, when taken for at least two months, cause 1 in 1,200 patients to die from gastrointestinal complications.¹⁵⁶ Some 20 million prescriptions for this group of drugs are taken in the UK every year, resulting in between 3,500 and 12,000 hospital admissions.¹⁷ Estimates of non-steroidal drug related deaths range from 2000 to 2,500 a year in the UK^{157,158} If one acupuncture treatment is equated with one prescription of this group of drugs, then the evidence from this survey of acupuncture practitioners suggests that the adverse event rate associated with acupuncture may be orders of magnitude lower than that associated with NSAIDs.”¹⁵⁹

“If one acupuncture treatment is equated with one prescription of this group of drugs, then the evidence from this survey of acupuncture practitioners suggests that the adverse event rate associated with acupuncture may be orders of magnitude lower than that associated with NSAIDs.”¹⁵⁹ (MacPherson et al: A Prospective Survey of Adverse Events and Treatment Reactions)

The key correlating factor in both of these assessments of minimal adverse events being associated with Acupuncture treatments is the caveat that such Acupuncture treatment be given by a professional or qualified Acupuncturist. The National Center for Biotechnology Information supports that conclusion:

“Declines in adverse reports may suggest that recent practices, such as clean needle techniques and more rigorous acupuncturist training requirements, have reduced the risks associated with the procedure. Therefore, acupuncture performed by trained practitioners using clean needle techniques is a generally safe procedure.”¹⁶⁰

“Generally speaking, Acupuncture treatment is safe if it is performed properly by a well-trained practitioner. Unlike many drugs, it is non-toxic, and adverse reactions are minimal. This is probably one of the chief reasons why Acupuncture is so popular in the treatment of chronic pain in many countries.”¹⁶¹ (World Health Organization: Guidelines on Training and Basic Safety in Acupuncture)

The World Health Organization, in their *Guidelines on Basic Training and Safety in Acupuncture*, elucidates comprehensive standards as to appropriate Acupuncture clinical and classroom safety education:

“In competent hands, acupuncture is generally a safe procedure with few contraindications or complications. Its most commonly used form involves needle penetration of the skin and may be compared to a subcutaneous or intramuscular injection. Nevertheless, there is always a potential risk, however slight, of transmitting infection from one patient to another (e.g. HIV or hepatitis) or of introducing pathogenic organisms. Safety in acupuncture therefore requires constant vigilance in maintaining high standards of cleanliness, sterilization and aseptic technique. There are, in addition, other risks which may not be foreseen or prevented but for which the acupuncturist must be prepared. These include: broken needles, untoward reactions, pain or discomfort, inadvertent injury to important organs and, of course, certain risks associated with the other forms of therapy classified under the heading of "acupuncture".

“Finally, there are the risks due to inadequate training of the acupuncturist. These include inappropriate selection of patients, errors of technique, and failure to recognize contraindications and complications, or to deal with emergencies when they arise.”¹⁶²

“Generally speaking, Acupuncture treatment is safe if it is performed properly by a well-trained practitioner. Unlike many drugs, it is non-toxic, and adverse reactions are minimal. This is probably one of the chief reasons why Acupuncture is so popular in the treatment of chronic pain in many countries.”¹⁶³

The World Health *Guidelines on Basic Training and Safety in Acupuncture* forms the basis for the Licensed Acupuncturist designation in the United States. All candidates for Licensed Acupuncturist certification have completed a minimum number of hours, 1490 classroom hours of academic course work, to qualify to take each required examination (see chart below). Completion of these hours of course work qualifies the applicant to sit for the following Acupuncture Certification Examinations as a “pre-graduate”.

Additional hours are required for final certification. In addition to passing the below certification exams all candidates for NCCAOM Certification in Acupuncture must document successful completion of a clean needle technique (CNT) course. In regards to Clean Needle Technique (CNT), the Biomedicine module focuses on universal precautions and emergency situations in comparison to the Acupuncture with Point Location module which focuses on actual needling and its emergencies (e.g., needle angle and depth).¹⁶⁴

The Alberta Heritage Foundation for Medical Research in their study *Acupuncture: Evidence from Systematic Reviews and Meta-analyses* confirms that the rate or incidence of serious adverse events due to acupuncture treatment is low.³² Furthermore, the adverse event rate, when compared with primary care drugs, suggests that acupuncture is a relatively safe treatment.¹⁶⁵

How do we, as a health care community, define quality health care?

The Institute of Medicine stated that "quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge"¹⁶⁶ This definition has been widely accepted and has proven to be a robust and useful reference in the formulation of practical approaches to quality assessment and improvement. The terms *health services* refer to a wide array of services that affect health, including those for physical and mental illnesses. Furthermore, this definition applies to many types of health care practitioners and to all settings of care. The definition emphasizes that high quality care *increases the likelihood* of good outcomes.¹⁶⁷

*"High quality care increases the likelihood of good outcomes."*¹⁶⁷ (Institute of Medicine)

How is quality of health care attained? In a classic formulation of the dimensions of quality of care almost 40 years ago, Avedis Donabedian described quality as including: "structure (viewed as the capacity to provide high quality care), process (now often termed performance), and outcomes:"¹⁶⁸

Donabedian's classic formulation of dimensions of quality is presented in the following four text boxes with correlating evidence of its application and/or misapplication in the context of Dry Needling/Intramuscular Manual Therapy and Acupuncture.

I. STRUCTURAL: **Structural Measures of Quality**

Structural measures of quality typically include the characteristics of the resources in the health care system... They are measures of the presumed capacity of the practitioner or provider to deliver quality health care. For health care professionals, this may include licensure, specialty board certification, and type of training.¹⁶⁹

In assessing Acupuncture training and licensing, the State of California sponsored Little Hoover Commission report entitled *Regulation of Acupuncture: A Complementary Framework* (2004) writes:

“According to a UCSF [University of California, San Francisco] analysis, the acupuncture curriculum is far more detailed and prescriptive than the educational requirements for other health professions.”¹⁷⁰

In assessing the training and subsequent aptitudes of therapists engaging in Trigger Point Dry Needling, Dommerholt, et al in a 2006 OPTP Award for Excellence in a Published Review of the Literature recognized article entitled “Myofascial Trigger Points: An Evidence-Informed Review” writes:

“Until very recently, the current scientific knowledge and clinical implications of Myofascial Trigger Points [MTrPs] were rarely included. It appears that orthopedic manual therapists have not paid much attention to the pathophysiology and clinical manifestations of MTrPs. Manual therapy educational programs in the US seem to reflect this orientation and tend to place a strong emphasis on joint dysfunction, mobilizations, and manipulations with only about 10%-15% of classroom education devoted to muscle pain and muscle dysfunction.”¹⁷¹

II. PROCESS: **Quality-of-care literature is full of discussions about *performance measurement***

Technical aspects of performance measure of care include the timeliness and accuracy of diagnosis, the appropriateness of therapy, complications, and mishaps during treatment, and coordination of care across delivery settings, episodes of care, and professional disciplines.¹⁷²

In a randomized, double blind, sham-controlled crossover trial comparing Dry Needling, Acupuncture and sham treatment of motion related neck pain, Irnich et al (2002) assessed relative quality of care:

“Acupuncture is superior to Sham [treatment] in improving motion-related pain and ROM [range of motion] following a single session of treatment in chronic neck pain patients. Acupuncture at distant points improves ROM more than DN [Dry Needling]; DN was ineffective for motion-related pain.”¹⁷³

“Acupuncture is superior to Sham in improving motion-related pain and ROM following a single session of treatment in chronic neck pain patients. Acupuncture at distant points improves ROM more than Dry Needling; Dry Needling was ineffective for motion-related pain.”¹⁷³ (Irnich et al)

III. Outcomes Measurement:

Health outcomes include the traditional measures of survival (now commonly expressed as *risk-adjusted mortality*), unintended effects of treatment (e.g., infection), and the relief of symptoms.”¹⁷⁴

BlueCross BlueShield, when assessing the probability of relief of symptoms as demonstrated by a survey of available clinical research trials investigating the use of Dry Needling by Physical Therapists, concluded:

“Despite the fact that dry needling has been known for years, there have been few published studies measuring the effect on patient outcomes published in the peer reviewed literature. Those studies that are available have design flaws or comprise small study samples so that it is not possible to draw conclusions regarding patient outcomes.”¹⁷⁵

Donabedian summarizes in the following Conclusion that quality health care is possible if health care organizations and their clinicians are accountable for its formation:

CONCLUSION: (1) that the quality of health care can be measured and improved and (2) that quality of care should be measured with continued and increased vigor. Pursuing this objective means indentifying and assessing the risks and opportunities posed by the changes in health care in the United States. **It also means describing how health care organizations and clinicians should be accountable to patients and society** [emphasis added].¹⁷⁶

In "Measuring the Quality of Health Care" (2012), the Institute of Medicine outlines a range of fundamental desirable objectives that result from the measurement of health care quality:

- providing data to inform quality improvement efforts;
- inspecting and certifying that a facility or individual meets previously established standards;
- comparing groups for a variety of purposes, including selective contracting by purchasers and choice of providers and practitioners by individuals;
- informing patients, families, and employees about the health care decisions and choices they face;
- identifying and possibly eliminating substandard performers—those whose performance is so far below an acceptable level that immediate actions are needed;
- highlighting, rewarding, and disseminating best practices;
- monitoring and reporting information about changes in quality over time; and
- addressing the health needs of communities”¹⁷⁷

It is the last objective that should concern us most, as purveyors of quality health care.

Three proposals would improve the likelihood of the health needs of communities being met:

1. Clear classification and explanation of health care options and their respective providers

The Little Hoover Commission, *Regulation of Acupuncture: A Complementary Framework*, notes:

“An important underlying tension [in health care delivery] is the trend toward blending traditional Oriental Medicine with Western biomedicine. While both healing paradigms can benefit the public, those benefits will be jeopardized if the two regulatory schemes are not kept separate and distinct.”¹⁷⁸

The White House Commission on Complementary and Alternative Medicine Policy describes the current circumstances potential health care consumers are confronted with when searching for care:

“Navigating the maze of titles and certificates among the various types of practitioners is a challenge for consumers, most of whom are unfamiliar with the nuances of these professions. Information on a practitioner's qualifications should be readily available to help consumers make informed choices in their selection and use of a practitioner. Information on state regulations, requirements, and disciplinary actions should be readily available to help ensure consumers' safety. CAM [Complementary and Alternative Medicine which includes Acupuncture according to the National Center for Complementary and Alternative Medicine, a division of the National Institutes of Health¹⁷⁹] practitioners without any formal training may be reluctant to make that fact known.

“Moreover, **consumers may not be able to distinguish between a degree or certificate obtained from an accredited organization and a degree or certificate purchased from an organization with no requirement that students meet appropriate educational standards** [emphasis added]. However, disclosure of such information will help consumers evaluate the qualifications of practitioners and make informed choices.”¹⁸⁰

2. More and improved communications between health care providers

Communication barriers between health care providers, especially between those theoretically trained in Eastern and Western modalities, are blocking a necessary free course of exchange. The Institute of Medicine, in *Complementary and Alternative Medicine in the United States* (2005), writes:

“Studies of the use of CAM [Complementary and Alternative Medicine] for the treatment of specific illnesses have documented the popularity of CAM for the treatment of health problems that lack definitive cures; that have an unpredictable course and prognosis; and that are associated with substantial pain, discomfort, or side effects from prescription drug medicine.

“The investigators commented on the observation that CAM providers typically did not discuss with the conventional doctors the care that they were providing to patients who were concurrently seeking care from conventional doctors. This finding, they argue, in conjunction with the fact that patients rarely discussed their CAM care with their conventional physicians raises concerns about the coordination and safety of concurrent care.”¹⁸¹

3. Promotion of interdisciplinary health care teams

The Federation of State Medical Boards, *Assessing Scope of Practice in Health Care Delivery: Critical Questions in Assuring Public Access and Safety*(2005)¹⁸⁶ concurs:

“The Institute of Medicine (IOM) reports from 2001¹⁸² and 2003¹⁸² recognize the complexity of scope of practice issues across disciplines and urge state regulators to allow for innovation in the use of all types of clinicians in meeting patient needs in the most effective and efficient way possible. Further, the IOM encouraged use of interdisciplinary teams to optimize patient care. The Pew Health Commission Taskforce on Health Care Workforce Regulation¹⁸⁴ called for States to explore pathways to allow all professionals to provide services to the full extent of their current knowledge, training, experience and skills. The American Medical Association adopted a report on physician and non-physician licensure and scope of practice.”^{185,186}

“*The Institute of Medicine encouraged use of interdisciplinary teams to optimize patient care.*”¹⁸⁶ (*Institute of Medicine, Assessing Scope of Practice in Health Care Delivery*)

Practitioners, working within their area of expertise and working with each other, can accomplish unsurpassed integrative health care. Following is a clinical study from the UCLA Center for East-West Medicine, Department of Internal Medicine, UCLA David Geffen School of Medicine, Los Angeles, CA, USA:

“An 87-year-old female with a history of osteoarthritis and spinal stenosis presented with a five month history of severe right hip pain. She had been seen by multiple specialists and hospitalized many times. During these encounters, she was prescribed a long list of pain medications. However, these medications did not improve her pain and added to her risk of adverse drug events. After exhausting traditional Western medical therapies, she received a referral to the UCLA Center for East-West Medicine. There, clinicians treated her with a nonpharmacological integrative East-West medicine approach that included acupuncture, dry needling of trigger points, and education on self-acupressure. Her pain began improving and she was able to cut back on analgesic use under physician supervision. Ultimately, she improved to the point where she was able to discontinue all of her pain medications. Symptomatic relief was evidenced by improvement in health-related quality of life.”¹⁸⁷

“This case study suggests that integrative East-West medicine may have the potential to reduce the incidence of polypharmacy in elderly patients presenting with pain conditions and improve their quality of life..”¹⁸⁸ (Tu et al, Case Study, UCLA Center for East-West Medicine)

This paper recommends:

1. **Formation of national guidelines** as to what constitutes desirable education, certification & licensure, both classroom and clinical, in the full spectrum of health care modalities, including complementary and alternative medicine.
2. **Full disclosure at health care treatment sites** of specific national guidelines *and* specific training, certification and licensure of all practitioners involved in practicing health care at that location so that consumers can make informed, intelligent decisions regarding their therapeutic options.
3. **Promotion of interdisciplinary teams** of health care providers to increase the range of therapeutic options available to patients. Rather than unwarranted expansions of scope of practice as Western practitioners recognize the value of Eastern health paradigms, interdisciplinary teams working together would better serve the public’s health care needs.

The following recommendations are presented in the spirit of achieving the standards of quality health care provided by the Committee on Quality of Health Care in America, Institute of Medicine, *Crossing the Quality Chasm: A New Health System for the 21st Century* (2012):

1. *Care is based on continuous healing relationships.*
2. *Care is customized according to patient needs and values.*
3. *The patient is the source of control.*
4. *Knowledge is shared and information flows freely.*
5. *Decision making is evidence-based.*
6. *Safety is a system property.*
7. *Transparency is necessary.*
8. *Needs are anticipated.*
9. *Waste is continuously decreased.*
10. *Cooperation among clinicians is a priority.*¹⁸⁸

Summary Statement

The Federation of State Board of Physical Therapy in *Changes in Healthcare Professions Scope of Practice: Legislative Considerations* (2006) wrote: “The only factors relevant to scope of practice decision making are those designed to ensure that *all licensed practitioners be capable of providing competent care.*”¹⁹⁰

We agree. Dry Needling is synonymous with Acupuncture and is, in fact, a subset of Acupuncture.

Dry Needling is an Acupuncture practice. Licensed Acupuncturists are the best equipped, prepared and qualified and therefore the best choice to provide competent care in the fields of Dry Needling, Intramuscular Manual Therapy and Acupuncture.

Footnotes

1. *"Acupuncture, in the strictest sense, refers to insertion of dry needles, at specially chosen sites for the treatment or prevention of symptoms and conditions."* Alberta Heritage Foundation for Medical Research Health Technology Assessment Unit. *Acupuncture: Evidence from systematic reviews and meta-analyses* 2002 Mar. Used in glossary of "Acupuncture for Osteoarthritis." *Centers for Medicare & Medicaid Services*. Web. 14 Jan. 2012. <<http://www.cms.gov/medicare-coverage-database/details/technology-assessments-details.aspx?TAId=19>>.
2. Produced by the APTA Department of Practice and APTA State Government Affairs. *Physical Therapists and the Performance of Dry Needling*. Rep. no. APTA.org. American Physical Therapy Association, Jan. 2012. Web. 6 Apr. 2012. <[http://www.apta.org/search.aspx?q=Dry Needling](http://www.apta.org/search.aspx?q=Dry+Needling)>.
"It is the Position of the AAOMPT Executive Committee that dry needling is within the scope of physical therapist practice." "AAOMPT Position Statements." AAOMPT. American Academy of Orthopaedic Manual Physical Therapists. Web. 1 Mar. 2012. <www.aaompt.org/about/statements.cfm>.
3. WHO. "Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials: 3. Diseases and Disorders That Can Be Treated with Acupuncture." Section 1.1. World Health Organization, 2003. Web. 11 Apr. 2012. <<http://apps.who.int/medicinedocs/en/d/Js4926e/5.html>>. 1.1
4. IBID
5. IBID
6. Ernst E, White AR. A review of problems in clinical acupuncture research. *American Journal of Chinese Medicine* 1997;XXV(1):3-11.
7. Kaptchuk TJ. *The Web that has no Weaver. Understanding Chinese Medicine*. Chicago, Illinois: Congdon & Weed, Inc.; 1983.
8. WHO. "Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials: Diseases and Disorders That Can Be Treated with Acupuncture." World Health Organization, 2003. Web. 11 Apr. 2012. <<http://apps.who.int/medicinedocs/en/d/Js4926e/5.html>>.
Traditional medicine and modern health care. Progress report by the Director-General. Geneva, World Health Organization, 1991 (unpublished document A44/10).
9. WHO. "Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials: 3. Diseases and Disorders That Can Be Treated with Acupuncture." World Health Organization, 2003. Web. 11 Apr. 2012. <<http://apps.who.int/medicinedocs/en/d/Js4926e/5.html>>.
10. IBID
11. IBID
12. "Bethesda Physiocare, Physical Therapy Services, Trigger Point Dry Needling." *Bethesda Physiocare: A Jan Dommerholt Company*. Web. 30 Dec. 2011. <<http://www.bethesdaphysiocare.com/services/sv-trigger.html>>.
13. "Position Paper on Dry Needling | Acupuncture Association of Colorado." *Acupuncture Association of Colorado | Acupuncture Denver | Find an Acupuncturist*. Web. 31 Dec. 2011. <<http://acucol.com/2011/03/position-paper-on-dry-needling/>>.
14. Simons DG, Travell JG, Simons LS. *Travell and Simons' Myofascial Pain and Dysfunction; the Trigger Point Manual*. 2nd ed. Baltimore, Md: Williams & Wilkins; 1999.
15. Dry Needling in Orthopaedic Physical Therapy Practice, **Jan Dommerholt, PT, MPS**. *Orthopaedic Practice* Vol. 16;3:04
16. "Myopain Seminars, Janet G. Travell, MD Seminar Series." *Myopain Seminars*. Web. 01 Feb. 2012. <<http://www.myopainseminars.com/seminars/travell/imt/>>.
17. Simons DG, Travell JG, Simons LS. *Travell and Simons' Myofascial Pain and Dysfunction; the Trigger Point Manual*. 2nd ed. Baltimore, Md: Williams & Wilkins; 1999. PDF version: p169.
18. Dommerholt, Jan. "Dry Needling in Orthopaedic Physical Therapy Practice." [Http://www.bethesdaphysiocare.com/professionals/pdf/optp_dryneedling_domm.pdf](http://www.bethesdaphysiocare.com/professionals/pdf/optp_dryneedling_domm.pdf). Web. 28 Dec. 2011. <http://www.bethesdaphysiocare.com/professionals/pdf/optp_dryneedling_domm.pdf>.
19. "Therapy Services." *TrailBlazerHealth.com Medicare Home Page | [Home] | TrailblazerHealth.com*. Center for Medicare and Medicaid Services, Feb. 2011. Web. 19 Jan. 2012. <<http://trailblazerhealth.com>>. Also: <http://www.trailblazerhealth.com/Tools/LCDs.aspx?ID=3326>

20. Chu J: Dry needling (intramuscular stimulation) in myofascial pain related to lumbosacral radiculopathy. *Eur J Phys Med Rehabil* 5(4):106-121, 1995.
21. Peterhouse Profile. "Clinic: Dr. Gunn." *ISTOP: IMS for Chronic Pain*. Institute for the Study and Treatment of Pain (ISTOP). Web. 17 Feb. 2012. <<http://www.istop.org/drgunn.html>>.
From the Peterhouse Cambridge Newsletter (2002): <http://www.pet.cam.ac.uk/petreans/newsletter-2002/profile.html>
22. Simons DG, Travell JG, Simons LS. *Travell and Simons' Myofascial Pain and Dysfunction; the Trigger Point Manual*. 2nd ed. Volume 1. Baltimore, Md: Williams & Wilkins; 1999.
23. Chu, J. "Dry needling (intramuscular stimulation) in myofascial pain related to lumbosacral radiculopathy." *Eur J Phys Med Rehabil* 5.4 (1995) : 106-121. Print. <<http://www.mendeley.com/research/dry-needling-intramuscular-stimulation-myofascial-pain-related-lumbosacral-radiculopathy/>>.
24. "List of Excluded Studies - Complementary and Alternative Therapies for Back Pain II - NCBI Bookshelf." *National Center for Biotechnology Information*. National Institutes of Health. Web. 04 Feb. 2012. <<http://www.ncbi.nlm.nih.gov/books/NBK56289/>>.
25. Produced by the APTA Department of Practice and APTA State Government Affairs. *Physical Therapists and the Performance of Dry Needling*. Rep. no. APTA.org. American Physical Therapy Association, Jan. 2012. Web. 6 Apr. 2012. <<http://www.apta.org/search.aspx?q=Dry+Needling>>.
26. When To Select Observational Studies as Evidence for Comparative Effectiveness Reviews Prepared for: The Agency for Healthcare Research and Quality (AHRQ) Training Modules for Systematic Reviews Methods Guide www.ahrq.gov Effective Health Care Program. "The AHRQ Training Modules for the Systematic Reviews Methods Guide:..." *The AHRQ Training Modules for the Systematic Reviews Methods Guide: An Introduction*. Ahrq.gov. Web. 06 Feb. 2012. <<http://www.slideshare.net/AHRQEHCPProgram/the-ahrq-training-modules-for-the-systematic-reviews-methods-guide-an-introduction>>.
27. Alberta Heritage Foundation for Medical Research Health Technology Assessment Unit. *Acupuncture: Evidence from systematic reviews and meta-analyses* 2002 Mar. Used in glossary of "Acupuncture for Osteoarthritis." *Centers for Medicare & Medicaid Services*. Web. 14 Jan. 2012. <<http://www.cms.gov/medicare-coverage-database/details/technology-assessments-details.aspx?TAId=19>>.
28. "Governance: AAAOM Position Paper on Dry Needling." *AAAOM*. Web. 31 Dec. 2011. <<http://www.aaaomonline.org/?page=Governance>>.
29. IBID
30. "Position Paper on Dry Needling | Acupuncture Association of Colorado." *Acupuncture Association of Colorado | Acupuncture Denver | Find an Acupuncturist*. Web. 31 Dec. 2011. <<http://acucol.com/2011/03/position-paper-on-dry-needling/>>.
31. *Acupuncture for Osteoarthritis*. Rockville, MD: U.S. Dept. of Health and Human Services, Public Health Service, Agency for Healthcare Research and Quality, 2003. Print.
This definition is also used in the glossary of "Acupuncture for Osteoarthritis." Centers for Medicare & Medicaid Services. "Acupuncture for Osteoarthritis." Centers for Medicare & Medicaid Services. Web. 14 Jan. 2012. <<http://www.cms.gov/medicare-coverage-database/details/technology-assessments-details.aspx?TAId=19>>1
32. "WHO Western Pacific Region - Publications and Documents - WHO International Standard Terminologies on Traditional Medicine in the Western Pacific Region." *WHO Western Pacific Region - Home*. World Health Organization. Web. 13 Feb. 2012. <http://www.wpro.who.int/publications/PUB_9789290612487.htm>.
34. Ibid
35. Ibid
36. Ibid
37. "Governance: AAAOM Position Paper on Dry Needling." *AAAOM*. Web. 31 Dec. 2011. <<http://www.aaaomonline.org/?page=Governance>>.
38. NIH Consensus Development Program. "The National Institutes of Health (NIH) Consensus Development Program: Acupuncture." *NIH Consensus Development Program*. U.S. Department of Health & Human Services. Web. 21 Feb. 2012. <<http://consensus.nih.gov/1997/1997Acupuncture107html.htm>>.
39. "Council of Colleges of Acupuncture and Oriental Medicine Position Paper on Dry Needling." *Acupuncture Today Is a Leading Provider of Acupuncture News, Info and Research Information in the World*. Web. 28 Dec. 2011. <<http://www.acupuncturetoday.com/impacms/at/article.php?id=32377>>.
40. "Bethesda Physiocare, Physical Therapy Services, Trigger Point Dry Needling." *Bethesda Physiocare: A Jan Dommerholt Company*. Web. 30 Dec. 2011. <<http://www.bethesdaphysiocare.com/services/sv-trigger.html>>.

41. NC Board of Physical Therapy Examiners. "Position Statement: NC Board of Physical Therapy Examiners: Intramuscular Manual Therapy (Dry Needling)." *Documents/position Statements*. Ncptboard.org. Web. <http://www.ncptboard.org/documents/positionstatements/Intramuscular%20Manual%20Therapy%20_Dry%20Needling_%20Position%20Statement.pdf>.
42. American Physical Therapy Association. *Physical Therapists & the Performance of Dry Needling Resource Paper*. Rep. APTA/APTA.org. Web. 27 Jan. 2012. <[http://www.apta.org/search.aspx?q=American Physical Therapy Association's Educational Resource Paper, Physical Therapists & the Performance of Dry Needling#s=~_d0!2!1!1!8!0!1!2!0!_d1!2!1!3!26!sim%7CMyAll!-360!DqCqtqBquqwpapxrvsryrpApvxrszrppqwpppqsq!_d3!%40APTASource+OR+NOT+%40APTASource!_d0!APTA.org!4!Physical+Therapists+and+the+Performance+of+Dry+Needling!_d5!_d2!!KqGqtFpwpxpHppupxpupypupwpppyppvpJpIpEpApBzpDppCpqvprpqsq!>](http://www.apta.org/search.aspx?q=American%20Physical%20Therapy%20Association's%20Educational%20Resource%20Paper,%20Physical%20Therapists%20and%20the%20Performance%20of%20Dry%20Needling!_d0!2!1!1!8!0!1!2!0!_d1!2!1!3!26!sim%7CMyAll!-360!DqCqtqBquqwpapxrvsryrpApvxrszrppqwpppqsq!_d3!%40APTASource+OR+NOT+%40APTASource!_d0!APTA.org!4!Physical+Therapists+and+the+Performance+of+Dry+Needling!_d5!_d2!!KqGqtFpwpxpHppupxpupypupwpppyppvpJpIpEpApBzpDppCpqvprpqsq!>)>.
43. Dommerholt, Jan, Orlando Mayoral Del Moral, and Christian Grobil. "Trigger Point Dry Needling." *Journal of Manual & Manipulative Therapy* 14.No. 4 (2006): E70-87. Web. 17 Feb. 2012. <<http://jmmtonline.com/documents/v14n4/DommerholtDryNeedlingV14N4.pdf>>.
44. "Subset." *Merriam-Webster's Learner's Dictionary*. Web. 21 Feb. 2012. <<http://www.learnersdictionary.com/search/subset>>.
45. Simons, David G., Janet G. Travell, Lois S. Simons, and Janet G. Travell. Part One: Introduction. *Travell & Simons' Myofascial Pain and Dysfunction: The Trigger Point Manual*. Baltimore: Williams & Wilkins, 1999. Print.
46. Melzack R, Stillwell DM, Fox EJ: Trigger points and acupuncture points for pain: correlations and implications. *Pain* 3:3-23, 1977.
47. Belgrade M: Two decades after ping-pong diplomacy: is there a role for acupuncture in Americanpain medicine? *APS J* 3(2):73-S3, 1994.
48. Simons, David G., Janet G. Travell, Lois S. Simons, and Janet G. Travell. Part I: Introduction. *Travell & Simons' Myofascial Pain and Dysfunction: The Trigger Point Manual*. Baltimore: Williams & Wilkins, 1999. Print.
49. Ibid
50. Belgrade M: Two decades after ping-pong diplomacy: is there a role for acupuncture in Americanpain medicine? *APS J* 3(2):73-S3, 1994.
51. Pomeranz BH: Acupuncture in America: a commentary.
52. *APS Journal* 3'2j:96-100, 1994.Hong CZ: Lidocaine injection versus dry needling to myofascial trigger point: the importance of the local twitch response. *Am f Phys Med Rehabil* 73:256-263, 1994.
53. Simons, David G., Janet G. Travell, Lois S. Simons, and Janet G. Travell. Part I: Introduction. *Travell & Simons' Myofascial Pain and Dysfunction: The Trigger Point Manual*. Baltimore: Williams & Wilkins, 1999. Print.
54. Janz, Stephen. "Acupuncture by Another Name." *Australian Jn of Acupuncture and Chinese Medecine* 6.2 (2011). Web. 28 Dec. 2011.
55. Dorsher, MD, Peter, and Johannes Fleckenstein. MD. "Trigger Points and Classical Acupuncture Points." *Elsevier-Germany Online Journals*. Akupunktur. Web. 21 Feb. 2012. <http://elsevier.isoftmedia.de/inhalt.php?/lan~eng/site~journalg/journal~4/name~1_09/article~5800132.html>.
56. Ibid
57. Ibid
58. "WHO Western Pacific Region - Publications and Documents - WHO International Standard Terminologies on Traditional Medicine in the Western Pacific Region." *WHO Western Pacific Region - Home*. World Health Organization. Web. 13 Feb. 2012. <http://www.wpro.who.int/publications/PUB_9789290612487.htm>.
59. "Council of Colleges of Acupuncture and Oriental Medicine Position Paper on Dry Needling." *Acupuncture Today Is a Leading Provider of Acupuncture News, Info and Research Information in the World*. Web. 28 Dec. 2011. <<http://www.acupuncturetoday.com/mpacms/at/article.php?id=32377>>.
60. Ibid
61. Gunn, C. Chan. "Neuropathic Pain: A New Theory for Chronic Pain of Intrinsic Origin." *Acupuncture in Medicine* 6.2 (1989): 50-53. Print
62. Produced by the APTA Department of Practice and APTA State Government Affairs. *Physical Therapists and the Performance of Dry Needling*. Rep. no. APTA.org. American Physical Therapy Association, Jan. 2012. Web. 6 Apr. 2012. <[http://www.apta.org/search.aspx?q=Dry Needling](http://www.apta.org/search.aspx?q=Dry%20Needling)>. html>.
63. "Council of Colleges of Acupuncture and Oriental Medicine Position Paper on Dry Needling." *Acupuncture Today Is a Leading Provider of Acupuncture News, Info and Research Information in the World*. Web. 28 Dec. 2011. <<http://www.acupuncturetoday.com/mpacms/at/article.php?id=32377>>.

- 64.. "Bethesda Physiocare, Resources for Professionals, News." *Bethesda Physiocare: A Jan Dommerholt Company*. Web. 30 Dec. 2011. <<http://www.bethesdaphysiocare.com/professionals/news.html>>.
65. Ibid
66. "Council of Colleges of Acupuncture and Oriental Medicine Position Paper on Dry Needling." *Acupuncture Today Is a Leading Provider of Acupuncture News, Info and Research Information in the World*. Web. 28 Dec. 2011. <<http://www.acupuncturetoday.com/mpacms/at/article.php?id=32377>>.
67. "Guidelines on Basic Training and Safety in Acupuncture." *Guidelines on Basic Training and Safety in Acupuncture*. World Health Organization. Web. 18 Feb. 2012. <<http://apps.who.int/medicinedocs/en/d/Jwhozip56e/>>.
68. Ibid
69. American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM). Model Policy for Needle Electromyography and Nerve Conduction Studies. 2010. Available at: http://www.aanem.org/getmedia/29c2a525-d8b5-4a59-8ac4-04bafafab972/Model_Policy_NCS_EMG_062810.pdf.aspx
70. NC Board of Physical Therapy Examiners. "Position Statement: NC Board of Physical Therapy Examiners: Intramuscular Manual Therapy (Dry Needling)." *Documents/position Statements*. Ncptboard.org. Web. <http://www.ncptboard.org/documents/positionstatements/Intramuscular%20Manual%20Therapy%20_Dry%20Needling_%20Position%20Statement.pdf>.
71. American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM). Model Policy for Needle Electromyography and Nerve Conduction Studies. 2010. Available at: http://www.aanem.org/getmedia/29c2a525-d8b5-4a59-8ac4-04bafafab972/Model_Policy_NCS_EMG_062810.pdf.aspx. Accessed on 1/19/2012.
72. Ibid.
73. Ibid.
74. "Corporate Medical Policy: Electrodiagnostic Studies." *Www.bcbsnc.com*. BlueCross Blue Shield. Web. <http://www.bcbsnc.com/assets/services/public/pdfs/medicalpolicy/electrodiagnostic_studies.pdf>.
75. American Association of Neuromuscular and Electrodiagnostic Medicine (AANEM). Model Policy for Needle Electromyography and Nerve Conduction Studies. 2010. Available at: http://www.aanem.org/getmedia/29c2a525-d8b5-4a59-8ac4-04bafafab972/Model_Policy_NCS_EMG_062810.pdf.aspx. Accessed on 1/19/2012
76. Safriet, B. (2002). Closing the gap between can and may in healthcare providers' scopes of practice: A primer for policymakers. *Yale Journal on Regulation*, 19, 301. Pg. 303.
77. Federation of State Medical Boards. (2005). *Assessing scope of practice in health care delivery: Critical questions in assuring public access and safety*. Dallas, TX.pg.4.
78. IBID
79. Dower, C., Christian, S., & O'Neil, E. (2007). *Promising scopes of practice models for the health professions*. San Francisco: University of California, San Francisco, The Center for Health Professions. Pg.1 .
80. Federation of State Medical Boards. (2005). *Assessing scope of practice in health care delivery: Critical questions in assuring public access and safety*. Dallas, TX
81. Internal communications. ILaaom. 1/2012.
82. *Acupuncture for Osteoarthritis*. Rockville, MD: U.S. Dept. of Health and Human Services, Public Health Service, Agency for Healthcare Research and Quality, 2003. Print.
This definition is also used in the glossary of "Acupuncture for Osteoarthritis." Centers for Medicare & Medicaid Services. "Acupuncture for Osteoarthritis." Centers for Medicare & Medicaid Services. Web. 14 Jan. 2012. <<http://www.cms.gov/medicare-coverage-database/details/technology-assessments-details.aspx?TAId=19>>1
83. IBID
84. BlueCross Blue Shield, and CareFirst. "Medical Policy - 8.01.018 - Dry Needling." *Carefirst.com/Medical Policy Reference Manual*. BlueCross BlueShield, 19 Mar. 2012. Web. 10 Apr. 2012. <<http://notesnet.carefirst.com/eCommerce/medicalpolicy.nsf/vwwebtablex/eac9e12f165e256b8525763c004c9350?OpenDocument>>.
85. IBID
86. "The only code for Medicare that would cover something like dry-needling would be an acupuncture code," said Assistant U.S. Attorney Kevin Doyle ." Dritschilo, Gordon. "Doctor Settles Billing Case: Rutland Herald Online." *RutlandHerald.com | Rutland Herald | Rutland News, Rutland Sports, Rutland Real Estate, Vermont Jobs*. Web. 28 Dec. 2011. <<http://www.rutlandherald.com/article/20111025/NEWS01/710259964/0/business>>.
87. IBID
88. IBID
89. "TrailBlazer Health Enterprises, LLC Agreement." *TrailBlazerHealth.com Medicare Home Page | [Home] | TrailblazerHealth.com*. Web. 14 Jan. 2012. <<http://www.trailblazerhealth.com/Tools/LCDs.aspx?ID=2882>>.

90. Dritschilo, Gordon. "Doctor Settles Billing Case: Rutland Herald Online." *RutlandHerald.com | Rutland Herald | Rutland News, Rutland Sports, Rutland Real Estate, Vermont Jobs*. Web. 28 Dec. 2011. <<http://www.rutlandherald.com/article/20111025/NEWS01/710259964/0/business>>.
91. "Therapy Services." *TrailBlazerHealth.com Medicare Home Page | [Home] | TrailblazerHealth.com*. Center for Medicare and Medicaid Services, Feb. 2011. Web. 19 Jan. 2012. <<http://trailblazerhealth.com>>.
92. Federation of State Boards of Physical Therapy. "Intramuscular Manual Therapy Dry Needling Resource Paper." *Kinetacore*. Kinetacore, 8 Mar. 2010. Web. 12 Apr. 2012. <http://www.kinetacore.com/physical-therapy/assets/files/FSBPT_Intramuscular_Manual_Therapy_Dry_Needling_Resource_Paper_final_version.pdf>
93. Federation of State Medical Boards of the United States, Inc. (2005) **Assessing Scope of Practice in Health Care Delivery: Critical Questions in Assuring Public Access and Safety**. Dallas, TX
http://www.fsmb.org/pdf/2005_grpol_scope_of_practice.pdf
94. "AAOMPT Position Statements." *AAOMPT*. American Academy of Orthopaedic Manual Physical Therapists. Web. 1 Mar. 2012. <www.aaompt.org/about/statements.cfm>.
95. Produced by the APTA Department of Practice and APTA State Government Affairs. *Physical Therapists and the Performance of Dry Needling*. Rep. no. APTA.org. American Physical Therapy Association, Jan. 2012. Web. 6 Apr. 2012. <[http://www.apta.org/search.aspx?q=Dry Needling](http://www.apta.org/search.aspx?q=Dry+Needling)>.
96. "AAOMPT Position Statements." *AAOMPT*. American Academy of Orthopaedic Manual Physical Therapists. Web. 1 Mar. 2012. <www.aaompt.org/about/statements.cfm>.
97. Produced by the APTA Department of Practice and APTA State Government Affairs. *Physical Therapists and the Performance of Dry Needling*. Rep. no. APTA.org. American Physical Therapy Association, Jan. 2012. Web. 6 Apr. 2012. <[http://www.apta.org/search.aspx?q=Dry Needling](http://www.apta.org/search.aspx?q=Dry+Needling)>.
98. "Council of Colleges of Acupuncture and Oriental Medicine Position Paper on Dry Needling." *Acupuncture Today Is a Leading Provider of Acupuncture News, Info and Research Information in the World*. Web. 28 Dec. 2011. <<http://www.acupuncturetoday.com/impacms/at/article.php?id=32377>>.
99. "AAOMPT Position Statements." *AAOMPT*. American Academy of Orthopaedic Manual Physical Therapists. Web. 1 Mar. 2012. <www.aaompt.org/about/statements.cfm>.
100. Produced by the APTA Department of Practice and APTA State Government Affairs. *Physical Therapists and the Performance of Dry Needling*. Rep. no. APTA.org. American Physical Therapy Association, Jan. 2012. Web. 6 Apr. 2012. <[http://www.apta.org/search.aspx?q=Dry Needling](http://www.apta.org/search.aspx?q=Dry+Needling)>.
101. "The National Institutes of Health (NIH) Consensus Development Program: Acupuncture." *NIH Consensus Development Program*. Web. 31 Dec. 2011. <<http://consensus.nih.gov/1997/1997Acupuncture107html.htm>>.
102. WHO. "Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials: 3. Diseases and Disorders That Can Be Treated with Acupuncture." World Health Organization, 2003. Web. 11 Apr. 2012. <<http://apps.who.int/medicinedocs/en/d/Js4926e/5.html>>.
103. IBID
104. "Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials: 1. General Considerations: 1.2. Need for Evaluation." Web. 30 Dec. 2011. <<http://apps.who.int/medicinedocs/en/d/Js4926e/3.2.html#Js4926e.3.2>>.
105. Federation of State Boards of Physical Therapy. "Intramuscular Manual Therapy Dry Needling Resource Paper." *Kinetacore*. Kinetacore, 8 Mar. 2010. Web. 12 Apr. 2012. <http://www.kinetacore.com/physical-therapy/assets/files/FSBPT_Intramuscular_Manual_Therapy_Dry_Needling_Resource_Paper_final_version.pdf>
106. Produced by the APTA Department of Practice and APTA State Government Affairs. *Physical Therapists and the Performance of Dry Needling*. Rep. no. APTA.org. American Physical Therapy Association, Jan. 2012. Web. 6 Apr. 2012. <[http://www.apta.org/search.aspx?q=Dry Needling](http://www.apta.org/search.aspx?q=Dry+Needling)>.
107. Federation of State Boards of Physical Therapy. "Intramuscular Manual Therapy Dry Needling Resource Paper." *Kinetacore*. Kinetacore, 8 Mar. 2010. Web. 12 Apr. 2012. <http://www.kinetacore.com/physical-therapy/assets/files/FSBPT_Intramuscular_Manual_Therapy_Dry_Needling_Resource_Paper_final_version.pdf>
108. "WHCCAMP - Home Page." *WHCCAMP - Final Report*. White House Commission on Complementary and Alternative Medicine Policy. 2002. Web. 14 Jan. 2012. <http://www.whccamp.hhs.gov/finalreport_pdf.html>.
109. IBID
110. Produced by the APTA Department of Practice and APTA State Government Affairs. *Physical Therapists and the Performance of Dry Needling*. Rep. no. APTA.org. American Physical Therapy Association, Jan. 2012. Web. 6 Apr. 2012. <[http://www.apta.org/search.aspx?q=Dry Needling](http://www.apta.org/search.aspx?q=Dry+Needling)>.
111. IBID. [Appendix C – International positions](#)

112. Dommerholt J, *Dry needling in orthopedic physical therapy practice*. Orthop Phys Ther Practice. 16(3): 15-20, 2004. <http://www.mendeley.com/research/dizziness-orthopaedic-physical-therapy-practice/#page-1>
ALSO: " [Http://www.bethesdaphysiocare.com/professionals/pdf/optp_dryneedling_domm.pdf](http://www.bethesdaphysiocare.com/professionals/pdf/optp_dryneedling_domm.pdf). Web. 28 Dec. 2011. <http://www.bethesdaphysiocare.com/professionals/pdf/optp_dryneedling_domm.pdf>.
113. Baldry, Peter. *Acupuncture, Trigger Points and Musculoskeletal Pain: A Scientific Approach to Acupuncture for Use by Doctors and Physiotherapists in the Diagnosis and Management of Myofascial Trigger Point Pain*. 3rd ed. Edinburgh: Elsevier/Churchill Livingstone, 2005. Print. ISBN 0 443 06644 2. Preface.
- 113a. Baldry P: *Acupuncture, Trigger Points, and Musculoskeletal Pain*. First edition. Churchill Livingstone, New York, 1989.
114. Ward AA: Spontaneous electrical activity at combined acupuncture and myofascial trigger point sites. *Acupuncture Med* 14(2):75-79, 1996.
115. Simons, David G., Janet G. Travell, Lois S. Simons, and Janet G. Travell. "Trigger Points and Acupuncture." *Travell & Simons' Myofascial Pain and Dysfunction: The Trigger Point Manual*. Baltimore: Williams & Wilkins, 1999. Part I: Introduction. Print.
116. Melzack R, Stillwell DM, Fox EJ: Trigger points and acupuncture points for pain: correlations and implications. *Pain* 3:3-23, 1977.
117. Belgrade M: Two decades after ping-pong diplomacy: is there a role for acupuncture in American pain medicine? *APS J* 3(2):73-53, 1994.
118. Melzack R, Stillwell DM, Fox EJ: Trigger points and acupuncture points for pain: correlations and implications. *Pain* 3:3-23, 1977.
119. Pomeranz BH: Acupuncture in America: a commentary. *APS Journal* 3'2j:96-100, 1994.
120. Hong CZ: Lidocaine injection versus dry needling to myofascial trigger point: the importance of the local twitch response. *Am J Phys Med Rehabil* 73:256-263, 1994.
121. Travell, Janet G., and David G. Simons. "Trigger Points and Acupuncture." *Myofascial Pain and Dysfunction, Volume 1 the Trigger Point Manual: The Upper Extremities*. Second ed. Baltimore, MD: Williams & Wilkins, 1999. Print.
122. Seem, Mark. "A New American Acupuncture: Acupuncture Osteopathy - The Myofascial Release of the Bodymind's Holding Patterns [Paperback]." *Amazon.com: A New American Acupuncture: Acupuncture Osteopathy*. 0936185449, May 1993. Web. 13 Apr. 2012. <<http://www.amazon.com/New-American-Acupuncture-Osteopathy-Myofascial/dp/0936185449>>.
123. Gunn, C. Chan. "Acupuncture Loci: A Proposal for Their Classification According to Their Relationship to Known Neural Structures." *American Journal of Chinese Medicine* 4.No. 2 (1976): 183+. Print
124. IBID
125. IBID
126. IBID
127. Peterhouse Profile. "Clinic: Dr. Gunn." *ISTOP: IMS for Chronic Pain*. Institute for the Study and Treatment of Pain (ISTOP). Web. 17 Feb. 2012. <<http://www.istop.org/drgunn.html>>.
From the Peterhouse Cambridge Newsletter (2002): <http://www.pet.cam.ac.uk/petreans/newsletter-2002/profile.html>
128. "The Database of Accredited Postsecondary Institutions and Programs." Office of Postsecondary Education. Web. 31 Dec. 2011. <<http://www.ope.ed.gov/accreditation/>>.
129. "Council of Colleges of Acupuncture and Oriental Medicine Position Paper on Dry Needling." *Acupuncture Today Is a Leading Provider of Acupuncture News, Info and Research Information in the World*. Web. 28 Dec. 2011. <<http://www.acupuncturetoday.com/mpacms/at/article.php?id=32377>>.
130. Travell, Janet G., and David G. Simons. "Trigger Points and Acupuncture." *Myofascial Pain and Dysfunction, Volume 1 the Trigger Point Manual: The Upper Extremities*. Second ed. Baltimore, MD: Williams & Wilkins, 1999. Print. Pg. 181.
131. Gunn CC: *The Gunn Approach to the Treatment of Chronic Pain-Intramuscular Stimulation for Myofascial Pain of Radiculopathic Origin*. Churchill Livingstone, London, 1996.
132. Matsumoto, Kiiko, and Stephen Birch. *Hara Diagnosis: Reflections on the Sea*. Brookline, MA: Paradigm Publications, 1988. 159. Print. http://books.google.ca/books/about/Hara_diagnosis.html?id=ktO5Atic5u4C
133. "Council of Colleges of Acupuncture and Oriental Medicine Position Paper on Dry Needling." *Acupuncture Today Is a Leading Provider of Acupuncture News, Info and Research Information in the World*. Web. 28 Dec. 2011. <<http://www.acupuncturetoday.com/mpacms/at/article.php?id=32377>>.
134. Gunn, C. Chan. "Acupuncture Loci: A Proposal for Their Classification According to Their Relationship to Known Neural Structures." *American Journal of Chinese Medicine* 4.No. 2 (1976): 183+. Print
135. "President's Perspectives/The State of the Jurisdictions." *Fsbpt.org*. The Federation of State Boards of Physical Therapy. Web. <<https://www.fsbpt.org/AboutFSBPT/Forum/Fall2011/index.asp#ABMS>>. https://www.fsbpt.org/download/Forum_Fall2011_StateOfJurisdictions.pdf

136. Ma, Yun-tao. "Dry Needling Course." *Dry Needling Course for Physical Therapists (PT)*. American Dry Needling Institute. Web. 13 Apr. 2012. <<http://dryneedlingcourse.com/>>.
137. Ma, Yun-tao. *Biomedical Acupuncture for Sports and Trauma Rehabilitation: Dry Needling Techniques*. St. Louis, MO: Churchill Livingstone/Elsevier, 2011. Print
138. Ma, Yun-tao. *Biomedical Acupuncture for Sports and Trauma Rehabilitation: Dry Needling Techniques*. St. Louis, MO: Churchill Livingstone/Elsevier, 2011. Chapter 16. Print
139. Ma, Yun-tao. "Dry Needling Course." *Dry Needling Course for Physical Therapists (PT)*. American Dry Needling Institute. Web. 13 Apr. 2012. <<http://dryneedlingcourse.com/>>. <<http://dryneedlingcourse.com/how-our-course-is-organized>>
140. National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM). **Study Guide for the Diplomate of Acupuncture Certification**. © 2012 NCCAOM ® NCCAOM ® Examination <<http://www.nccaom.org/wp-content/uploads/pdf/Acupuncture%20Study%20Guide%20Final.pdf>>
141. IBID
142. *J Am Board Fam Med*. 2010 Sep-Oct;23(5):640-6. Dry needling in the management of musculoskeletal pain. [Kalichman L, Vulfsons S](#). Source :Department of Physical Therapy, Ben-Gurion University of the Negev, Beer Sheva, Israel. kleonid@bgu.ac.il < <http://www.jabfm.org/content/23/5/640.long>>
143. Deadman, Peter, Mazin Al-Khafaji, and Kevin Baker. *A Manual of Acupuncture*. Hove, East Sussex, England: Journal of Chinese Medicine Publications, 2007. Print
144. IBID
145. Schroeder, Vice-President and General Counsel, Michael. "National Chiropractic Council(TM)." Letter to Kathleen Haley, Executive Director, State of Oregon Medical Board. 18 Nov. 2009. MS
146. IBID
147. IBID
147. IBID
148. IBID
149. Vincent C. The safety of **ACUPUNCTURE**. *BMJ*. 2001;323(7311):467-468.
150. White A, Hayhoe S, Hart A, Ernst E. Adverse events following **ACUPUNCTURE**: prospective survey of 32 000 consultations with doctors and physiotherapists. *BMJ*. 2001;323(7311):485-486.
151. "Malpractice Claims Study on the Practice of Physical Therapy. Free PDF Download." *Professional Liability Insurance, Malpractice Insurance for Healthcare and Counseling Professionals*. Web. 23 Jan. 2012. <<http://www.hpso.com/professional-liability-insurance/pt-study-06.jsp>>.
152. MacPherson, Hugh, Kate Thomas, Stephen Walters, and Mike Fitter. CITATION "A Prospective Survey of Adverse Events and Treatment Reactions following 34,000 Consultations with Professional Acupuncturists." *Acupuncture in Medicine*. BMJ Journals, 2001. Web. 7 Apr. 2012. <http://aim.bmj.com/content/19/2/93.long>
153. Yamashita H, Tsukayama H, Tanno Y, Nishijo K. "Adverse events in acupuncture and moxibustion treatment: a six-year survey at a national clinic in Japan." *J Altern Complement Med* 1999;5(3):229-36.
154. MacPherson, Hugh, Kate Thomas, Stephen Walters, and Mike Fitter. "A Prospective Survey of Adverse Events and Treatment Reactions following 34,000 Consultations with Professional Acupuncturists."
155. NCCAM, and AHRQ. "Get the Facts: Acupuncture for Pain." *National Center for Complementary and Alternative Medicine*. National Institutes of Health, May 2009. Web. 7 Apr. 2012. <http://nccam.nih.gov/sites/nccam.nih.gov/files/D435_GTF.pdf>.
156. Tramer MR, Moore RA, Reynolds DJ, McQuay HJ. Quantitative estimation of rare adverse events which follow a biological progression: a new model applied to chronic NSAID use. *Pain* 2000;85(1-2):169-82.
157. IBID
158. Blower AL, Brooks A, Fenn GC, Hill A, Perace MY, Morant S et al. Emergency admission sfor upper gastrointestinal disease and their relation to NSAID use. *Aliment Pharmacol Ther* 1997;11(2)283-91.
159. MacPherson, Hugh, Kate Thomas, Stephen Walters, and Mike Fitter. "A Prospective Survey of Adverse Events and Treatment Reactions following 34,000 Consultations with Professional Acupuncturists." *Acupuncture in Medicine*. BMJ Journals, 2001. Web. 7 Apr. 2012. <<http://aim.bmj.com/content/19/2/93.long>>.
160. Lao, L., GR Hamilton, J. Fu, and BM Berman. "Supplemental Content." *National Center for Biotechnology Information*. U.S. National Library of Medicine, [Altern Ther Health Med](#). 2003 Jan-Feb;9(1):72-83. Web. 07 Apr. 2012. <<http://www.ncbi.nlm.nih.gov/pubmed/12564354>>.
161. "Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials: 1. General Considerations: 1.4. Safety." Web. 30 Dec. 2011. <<http://apps.who.int/medicinedocs/en/d/Js4926e/3.4.html#Js4926e.3.4>>.
162. World Health Organization. Bulletin. *Acupuncture Related Adverse Events: A Systematic Review of Chinese Literature*. By Junhua Zhang. *Doi:10.2471/BLT.10.076737*. Web. 22 Jan. 2012. <<http://www.who.int/bulletin/volumes/88/12/10.076737.pdf>>.

163. "Acupuncture: Review and Analysis of Reports on Controlled Clinical Trials: 1. General Considerations: 1.4. Safety." Web. 30 Dec. 2011. <<http://apps.who.int/medicinedocs/en/d/Js4926e/3.4.html#Js4926e.3.4>>.
164. National Certification Commission for Acupuncture and Oriental Medicine (NCCAOM). **Study Guide for the Diplomate of Acupuncture Certification**. © 2012 NCCAOM ® NCCAOM ® Examination <<http://www.nccaom.org/wp-content/uploads/pdf/Acupuncture%20Study%20Guide%20Final.pdf>>
165. Ernst E. Adverse Effects of Acupuncture. In: Jonas Wayne B, Levin Jeffrey S, editors. *Essentials of Complementary and Alternative Medicine*. Philadelphia, PA: Lippincott Williams & Wilkins; 1999 p.172-5.
166. IOM. *Medicare: A Strategy for Quality Assurance*. K.N. Lohr, ed. Washington, D.C.: National Academy Press, 1990. Cited in "Measuring the Quality of Health Care." *The National Academies Press*. Division of Health Care Services, Institute of Medicine, 1999. Web. 09 Apr. 2012. <http://www.nap.edu/openbook.php?record_id=6418>.
167. "Measuring the Quality of Health Care." *The National Academies Press*. Division of Health Care Services, Institute of Medicine, 1999. Web. 09 Apr. 2012. <http://www.nap.edu/openbook.php?record_id=6418>.
168. Donabedian, A. Evaluating the Quality of Medical Care. *Milbank Memorial Fund Quarterly* 44:166–203, 1966. Donabedian, A. *Explorations in Quality Assessment and Monitoring Vol. 1. The Definition of Quality and Approaches to Its Assessment*. Ann Arbor, MI: Health Administration Press, 1980.
169. IBID
170. "Regulation of Acupuncture: A Complementary Therapy Framework." *Little Hoover Commission*. State of California, 30 Sept. 2004. Web. 10 Apr. 2012. <<http://www.lhc.ca.gov/studies/175/report175.html>>.
171. Dommerholt, Jan. "Myofascial Trigger Points: An Evidence-Informed Review." *Ingentaconnect*. The Journal of Manual & Manipulative Therapy, 2006. Web. 10 Apr. 2012. <http://www.dgs.eu.com/uploads/media/MTrP_an_evidence_informed_review_02.pdf ALSO <<http://www.ingentaconnect.com/content/maney/jmt/2006/00000014/00000004/art00003>>.
172. Donabedian, A. Evaluating the Quality of Medical Care. *Milbank Memorial Fund Quarterly* 44:166–203, 1966. Donabedian, A. *Explorations in Quality Assessment and Monitoring Vol. 1. The Definition of Quality and Approaches to Its Assessment*. Ann Arbor, MI: Health Administration Press, 1980.
173. Irmich D., Behrens, N., Gleditsch, J>M> et al (2002): Immediate effects of dry needling and acupuncture at distant points in chronic neck pain: results of a randomized, double-blind, sham-controlled crossover trial. *Pain* 99, 83-9. <http://www.ncbi.nlm.nih.gov/pubmed/12237186>
174. Donabedian, A. Evaluating the Quality of Medical Care. *Milbank Memorial Fund Quarterly* 44:166–203, 1966. Donabedian, A. *Explorations in Quality Assessment and Monitoring Vol. 1. The Definition of Quality and Approaches to Its Assessment*. Ann Arbor, MI: Health Administration Press, 1980
175. BlueCross Blue Shield, and CareFirst. "Medical Policy - 8.01.018 - Dry Needling." *Carefirst.com/Medical Policy Reference Manual*. BlueCross BlueShield, 19 Mar. 2012. Web. 10 Apr. 2012. <<http://notesnet.carefirst.com/ecommerce/medicalpolicy.nsf/vwwebtablex/eac9e12f165e256b8525763c004c9350?OpenDocument>>.
176. Donabedian, A. Evaluating the Quality of Medical Care. *Milbank Memorial Fund Quarterly* 44:166–203, 1966. Donabedian, A. *Explorations in Quality Assessment and Monitoring Vol. 1. The Definition of Quality and Approaches to Its Assessment*. Ann Arbor, MI: Health Administration Press, 1980
177. *The National Academies Press*. Division of Health Care Services, Institute of Medicine, 1999. Web. 09 Apr. 2012. <http://www.nap.edu/openbook.php?record_id=6418>.
178. "Regulation of Acupuncture: A Complementary Therapy Framework." *Little Hoover Commission*. State of California, 30 Sept. 2004. Web. 10 Apr. 2012. <<http://www.lhc.ca.gov/studies/175/report175.html>>.
179. "What Is Complementary and Alternative Medicine?" *Home Page*. National Institutes of Health/US Dept of Health and Human Services, July 2011. Web. 10 Apr. 2012. <<http://nccam.nih.gov/health/whatisnccam>>." "Complementary medicine" refers to use of CAM **together with** conventional medicine, such as using CAM in addition to usual care to help lessen pain.
180. "WHCCAMP - Home Page." *WHCCAMP - Final Report*. White House Commission on Complementary and Alternative Medicine Policy. 2002. Web. 14 Jan. 2012. <http://www.whccamp.hhs.gov/finalreport_pdf.html>.
181. Committee on the Use of Complementary and Alternative Medicine by the American Public. *Complementary and Alternative Medicine in the United States*. Washington, DC: National Academies, 2005. *Institute of Medicine of the National Academies*. Web. 8 Apr. 2012. <<http://http://www.iom.edu/Reports/2005/Complementary-and-Alternative-Medicine-in-the-United-States.aspx>>.
182. *Crossing the Quality Chasm: A New Health System for the 21 st Century*, The Institute of Medicine, National Academy Press, 2001.

183. *Health Professions Education: A Bridge to Quality*, The Institute of Medicine, Committee on Health Professions Education Summit, National Academies Press, 2003.
184. *Reforming Health Care Workforce Regulation: Policy Considerations for the 21 st Century*, Report of the Pew Health Professions Commission's Taskforce on Health Care Workforce Regulation, December 1995, ix.
185. Report 1-I-00, *Physician and Nonphysician Licensure and Scope of Practice*, adopted by the AMA House of Delegates in 2000.
186. "Assessing Scope of Practice in Health Care Delivery: Critical Questions in Assuring Public Access and Safety." Federation of State Medical Boards. Web. 18 Feb. 2012. <www.fsmb.org/pdf/2005_grpol_scope_of_practice.pdf>
187. Tu, Bill, Michael Johnston, and Ka-Kit Hui. "Elderly Patient Refractory to Multiple Pain Medications Successfully Treated`with Integrative East-West Medicine." *Internation Journal of General Medicine*. Dove Medical Press, Ltd., 2008. Web. 10 Apr. 2012. <http://www.cewm.med.ucla.edu/sources/elderly_refractory_Tu2008.pdf>.
188. IBID
189. *Crossing the Quality Chasm: A New Health System for the 21st Century* COMMITTEE ON QUALITY OF HEALTH CARE IN AMERICA, and National Academy of Sciences. "Report." *Crossing the Quality Chasm: A New Health System for the 21st Century*. Institute of Medicine, 2000. Web. 09 Apr. 2012. <<http://www.iom.edu/Reports/2001/Crossing-the-Quality-Chasm-A-New-Health-System-for-the-21st-Century.aspx>>.
190. *The Federation of State Boards of Physical Therapy. Changes in Healthcare Professions Scope of Practice: Legislative Considerations* (2006) Web. 29 Dec. 2011 <<https://www.fsbpt.org/RegulatoryTools/ScopeOfPractice/index.asp>>.
