

# Dry Needling Is One Type of Acupuncture

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## ABSTRACT

**Background:** Acupuncture has been practiced in Western countries for more than 40 years. One type of needling therapy termed dry needling has gained popularity rapidly since 2000. However a strong debate and conflict exists between proponents of dry needling by physical therapists and proponents of acupuncture.

**Objectives:** This review explores similarities and differences between dry needling and acupuncture and provides suggestions for debate and solutions for conflict between nonphysician dry needling practitioners and acupuncturists.

**Materials and Methods:** This review selected four features of needling technique and explored the similarities and differences between dry needling and acupuncture. The four features were: (1) needles used; (2) target points; (3) action mechanisms; and 4) therapeutic effects. A PubMed search for articles on dry needling and acupuncture for the years spanning 1941 to 2015 was also used to determine how many articles were retrieved for each topic and how levels of interest in each topic changed.

**Results:** It was observed that both dry needling and acupuncture shared needles, target points, action mechanisms, and therapeutic effects, and could be used to treat musculoskeletal disease effectively. However, because of a lack of adequate training and good regulation, acupuncturists question the safety of dry needling.

**Conclusions:** Acupuncture is more inclusive and dry needling is one type of acupuncture when acupuncture needles are used. Collaboration and integration should be strengthened between dry needling practitioners who are not physicians and acupuncturists so that the patients can receive safe and high-quality acupuncture treatment. Five suggestions were proposed for solutions to solve the conflict and debate between dry needling and acupuncture.

**Key Words:** Dry Needling, Acupuncture, Trigger Points, Acupoints

## INTRODUCTION

**N**EEDLES THAT HAVE BEEN USED in healthcare may be in different forms, mainly as solid or hollow. Hollow (hypodermic) needles are widely used by conventional medicine practitioners to inject solutions into, or withdraw body fluids from, the human body. Practitioners of acupuncture, a well-known component of Traditional Chinese Medicine (TCM), have been needling with solid needles for >3000 years. These needles are commonly called acu-

puncture needles. Dry needling as a newly developed needling therapy also uses acupuncture needles. Because this technique involves using the same treatment tool as acupuncture, a number of overlaps in history, theory, research, and practice have been generated, leading to serious debate and conflicts concerning professional interests, public benefits, policymaking, and healthcare service. However, scarce literature information exists that comprehensively compares the two needling techniques' history, theory, research, and practice.<sup>1</sup> Furthermore, there are

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no systematic suggestions on how these two needling techniques can be coordinated in order to provide optimal service for patients, and no systematic solutions for resolving the conflicts.

This review addresses some important differences regarding needles used, points targeted, action mechanisms, and therapeutic effects between dry needling and acupuncture. The review also explores professional development and offers potential solutions to the conflict in professional interest, research, public benefits, policy making and healthcare service.

## METHODS AND MATERIALS

Four features of needling technique were selected and the similarities and differences between dry needling and acupuncture were explored. The four features were: (1) needles used; (2) target points; (3) action mechanisms; and (4) therapeutic effects. To help understand why there are debates and conflicts between nonphysician dry needling practitioners and acupuncturists, three aspects of professional practice were studied: (1) growth of interest in dry needling and acupuncture from 1941 to 2015; (2) scope of practice; and (3) public safety. A PubMed search for articles on dry needling and acupuncture for these years was also used to determine how many articles were retrieved for each topic and how levels of interest in each topic changed.

## RESULTS AND DISCUSSION

### Small Needles but Large Issue

The conflict between dry needling and acupuncture begins with small needles. Acupuncture practitioners commonly use acupuncture needles that are solid, filiform metallic needles (although stone needles and bamboo needles were used in ancient times.) Dry needling practitioners, such as physical therapists who are not physicians or acupuncturists, use the same needles. However, they claim they are not practicing acupuncture. An American Physical Therapy Association (APTA) article, published in 2012, stated: “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 TrPs [trigger points].”<sup>2</sup>

It is well-accepted that acupuncture is the earliest modality using solid needles to treat diseases. In the term *acupuncture*, *acu-* means *needle* and *-puncture* is *penetration*. In Chinese medicine and culture, the term acupuncture always goes with the term *moxibustion*, as in *Zhen Jiu* acupuncture and *moxibustion*. *Moxibustion* is a therapy that involves burning an herb on or near the skin. Somehow, *moxibustion* was missed in *Zhen Jiu* after acupuncture

therapy entered the Western world. Both acupuncture and *moxibustion* are based on the channel theory of TCM but the former is Yin and the latter is Yang. This is a topic that the current authors might address in a future publication.

On the official website of the National Center for Complementary and Integrative Health of the U.S. National Institutes of Health, the definition of acupuncture has been reasonably expanded and well-described as

a family of procedures involving the stimulation of points on the body using a variety of techniques. The acupuncture technique that has been most often studied scientifically involves penetrating the skin with thin, solid, metallic needles that are manipulated by the hands or by electrical stimulation. Practiced in China and other Asian countries for thousands of years, acupuncture is one of the key components of traditional Chinese medicine.<sup>3</sup>

Legge<sup>4</sup> studied the history of dry needling and highly praised Brav and Sigmond’s work in 1941<sup>5</sup> because they found that pain could be relieved by simple hypodermic needling without injection of any substance. One group in the study who received injections without any substances had results that were a close second to the best-outcome group who received Novocain injections. This outcome was described as a “startling” result.<sup>5</sup> Although the term *dry needling* was not used, this was the first time the technique was used in a Western context. Similar situations in acupuncture also appeared in clinical trials of verum versus sham acupuncture. Results that show no difference statistically between treating pain with either verum acupuncture or sham acupuncture could indicate new mechanisms at work or suggest novel techniques and theory.<sup>6,7</sup>

Although Brav and Sigmond’s work should be widely recognized, they did not coin the term dry needling. It was Paulett who first used the term dry needling in 1947. Paulett reported that pain relief could be obtained not only from the injection of procaine by hypodermic needles but also by injecting saline and “even dry needling.”<sup>8</sup>

In a landmark article in 1952, Travell and Rinzler<sup>9</sup> pointed out that dry needling could be an effective method of treating myofascial TrPs (MTrPs); this article is commonly regarded as the earliest use of the term *dry needling*.

After the publication by Travell and Rinzler,<sup>9</sup> the term dry needling was widely accepted and used. However, the needles used in Western studies of dry needling were mainly hollow needles that were used for a control group or were offered as one option as a treatment for myofascial pain. In 1999, Simons et al.<sup>10</sup> further described the dry needling used as a control technique when studying the effects of injections of lidocaine. Thus, in this study and other early studies, hypodermic needles were used instead of acupuncture needles.

Acupuncture needles were not utilized for dry needling until 1979. Lewit published his dry needling study including an acupuncture group, on the relief of myofascial pain and found that the acupuncture needles were safer and

produced less bleeding and bruising.<sup>11</sup> One year later, results were published by Gunn et al. from their first clinical trial on treating low-back pain using dry needling that combined features of acupuncture (type of needles, needle techniques). Gunn, at the time, was president of the American Society of Acupuncture.<sup>12</sup>

In 1983, Macdonald et al. reported that treatment of an acupuncture group was superior to placebo in their dry needling study on treating chronic low-back pain.<sup>13</sup>

According to the abovementioned 3 studies on dry needling, it is clear that dry needling was not confined to hollow-core needles in a narrow sense. Lewit freely admitted to having borrowed acupuncture needles to perform his dry needling.<sup>11</sup> In addition, the earliest Western use of a dry needling technique (the term was not used as such) by Brav and Sigmond was not claimed to be dry needling but was called acupuncture, because the first line of this article stated: “The origin of the local and regional injection treatment of low back pain and sciatica dates back to the earliest description of acupuncture,” which referred to Churchill’s publications on acupuncture in 1821 and 1828.<sup>5</sup>

Since the 2000s, acupuncture needles have been widely used in the practice of dry needling by physical therapists. This is discussed more in later sections of the current review.

Historically, dry needling is, simply, acupuncture. It was first described in China’s earliest and most comprehensive extant medical treatise, *The Yellow Emperor’s Inner Classic (Huangdi Neijing)*. Dry needling involves inserting an acupuncture needle into a tender or painful point and then manipulating appropriately the needle for therapeutic purposes.<sup>14</sup>

Interestingly, the term dry needling (*Gan Zhen*) had been a folk name for acupuncture since the 1900s when Western medicine entered China. Acupuncture practitioners injected nothing with needles, while wet needling was used by Western medical doctors to inject antibiotics or anesthetics. *Nothing* here means *Gan/dry*. Thus, dry needling was created to be distinguished from the syringe needles used injecting of solutions. Dry needling has been referred to as acupuncture particularly in southern China. “*Gan Zhen/dry needling*” or “*Da Zhen/needling*” are also commonly used by many Chinese medicine practitioners.<sup>15,16</sup>

It is not surprising that the needles of contemporary dry needling started from wet needling with injectants in the practice of Western medicine. However, it was almost immediately influenced by TCM acupuncture; thus, acupuncture needles began to be used.

The acupuncture needles are small. However, both acupuncturists and physical therapists consider them to be cornerstones of their professions.

### Target Points: Trigger Points Are Acupuncture Points

The term *target points* means points or spots where dry needling and acupuncture practitioners put needles. The

target points would be called trigger points or myofascial trigger points in dry needling and acupoints or *Ashi* points in acupuncture.

There is no doubt that needling specific target points is the first step of needling therapy, including dry needling and acupuncture.<sup>17</sup> Discovery and classification of target points took place >2500 years ago in acupuncture and 75 years ago in dry needling.

The earliest acupoints (*Xue Wei/Location of Cave or Hole*) were defined as painful spots in the first known book of Chinese medicine, the *Huangdi Neijing (The Yellow Emperor’s Inner Classic, ~ 100 BC)*. In this classic book, a chapter on *Bei Shu/Back Acupoints* says “to check if it is [an] acupoint, press it and the pain is triggered and may be relieved during the pressing. Here is [an] acupoint.” The phenomenon is called *Yi Tong Wei Shu/Painful Spot Is Acupoint*. The well-known Chinese medical physician in the Tang dynasty, Sun Simiao (581–682 AD), named the painful spot the *Ashi* point because the patient would say: “ah, yes/ouch, right here,” when the painful spot was pressed. Sun also stated in his book *Beiji Qianjin Yaofan/Emergent Thousand Ducat Formulas, Volume 29*, in a chapter on moxibustion: “The method of locating *Ashi* points, is to press the painful spot. The patient may feel comfortable or painful saying *Ashi* (Ah, yes). Treatment with needles and moxibustion would work no matter if it is in the channel.”

With the increase of *Ashi* points, ancient Chinese medicine practitioners gave them certain names and set them down in their “homes” (i.e., the channels where they belonged) based on observation of the acupoint’s functions and indications. There were 201 acupoints when the *Huangdi Neijing* was published, 348 acupoints in *Zhenjiu Jiayi Jing/The Systemic Classic of Acupuncture and Moxibustion* (Huangfu Mi, Jing dynasty, 260 AD), 354 in the *Illustrated Classic of Acupoints on the Bronze Man (Wang Weiyi, Song dynasty, 1026 AD)*, and 361 acupoints in *Zhenjiu Fengyuan/Meeting the Source of Acupuncture and Moxibustion* (Li Xuechuan, Qing dynasty, 1817 AD). The 361 acupoints have been accepted worldwide since then.<sup>18</sup> It is believed that >1949 points have been discovered so far.<sup>16</sup> Most of them have not been placed on the channels because the channel–acupoint theory had been developed over thousands years. In fact, there is no difference between acupoints and *Jin Wai Qi Xue/Extraordinary acupoints* or *Ashi* points in nature because the origin is the same—the *Ashi* points.

The more important thing is that ancient Chinese medicine practitioners found certain relationships in physiology and pathophysiology between body-surface acupoints and deep tissues and visceral organs, which is how the channel theory was developed. According to the channel theory, one can needle the acupoints to treat diseases and pain in muscles, fascia, and visceral organs. Therefore, Chinese acupuncture has a very wide range of indications, from various kinds of musculoskeletal pain to digestive diseases, to allergic sinusitis, and even to health maintenance and longevity.<sup>19</sup>

While painful, tender, and tight nodules or spots in muscles have long been recognized in many cultures in the world, the spots' significance for pain was not yet acknowledged in Western countries until the twentieth century. Researchers Lewis, Kellgren, Harman and Young, Kelly, and Steindler did pilot work on this issue from 1938 to 1941. The term *trigger point* was first proposed by Kellgren in his low-back pain and sciatica study. He reported that sciatica seemed to have more referred pain from muscular, tendinous, and ligamentous structures rather than from sciatic-nerve irritation.<sup>21,22</sup> The term trigger point, however, was not restricted to myofascial trigger points.<sup>20–25</sup>

After Kellgren used the term trigger points, Travell, Rinzler, Simons, and their colleagues used it and modified it to *myofascial trigger points* (MTrPs), narrowing the concept to muscles,<sup>9,10,26</sup> calling a trigger point “a hyperirritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band. The spot is tender when pressed and can give rise to characteristic referred pain, motor dysfunction and autonomic phenomena.” Since then, the APTA uses the term trigger points as target points for dry needling by physical therapists treating myofascial pain.<sup>2</sup>

In the past 2 decades, dry needling and acupuncture research has grown rapidly. After reviewing the literature, Dunning and his colleagues wrote that

physical therapists should not ignore the findings of the Western or biomedical “acupuncture” literature that have used the very same “dry needles” to treat patients with a variety of neuromusculoskeletal conditions in numerous, large scale randomized controlled trials. ... Physical therapy associations and state boards of physical therapy should consider broadening the definition of dry needling to encompass the stimulation of neural, muscular, and connective tissues, not just trigger point.<sup>27</sup>

How much do trigger points and acupoints overlap? Melzack, who introduced the gate control theory for pain mechanism in 1965, first compared the locations of trigger points and acupoints, with his colleagues, in 1977 and found a high degree of correspondence (71%) between trigger points and acupuncture points,<sup>28</sup> from which the researchers concluded that “‘trigger points and acupuncture points for pain, though discovered independently, and labeled differently, represent the same phenomenon and can be explained in terms of the same underlying neural mechanisms.’”<sup>28</sup>

In 2008, Dorsher and Fleckenstein investigated 255 common MTrPs and found that 238 (93.3%) MTrPs anatomically corresponded with classical acupoints. Furthermore, the researchers stated that “‘the marked correspondences of the pain indications (up to 97%) and somatovisceral indications (up to 93%) of anatomically corresponding common MTrP-classical acupoints pairs provide a second, clinical line of evidence that trigger points and acupuncture points likely describe the same physiologic phenomena.’”<sup>29,30</sup>

Thus, trigger points in dry needling and acupoints in acupuncture are derived from painful spots or tender/tight nodules. Muscle pain can be relieved effectively when the target points are needled. The same phenomenon is given different names. Lao Zi (the founder of Daoism in China, ~ 600 BC) said in his book *Dao De Jing*: “‘The *Dao* that can be spoken is not the eternal *Dao*. The name that can be named is not the eternal name.’” Hence, the names can truly help us recognize the world and we do not want to be attached to these names.

### The Same Needles Involve the Same Biologic Mechanisms

Zhou et al. reported that, between 1980 and April 2015, almost 200 publications were retrievable by a PubMed search using the term *dry needling*. The majority of this literature reported on the therapeutic effectiveness of dry needling, using solid filiform needles for various types of musculoskeletal pain.<sup>1</sup>

As was noted above, both trigger points and acupoints are just different expressions of target points for dry needling and acupuncture. In addition, acupoints are much broader than trigger points.

When the same needles are inserted in the same target points, is it possible that there are different therapeutic mechanisms involved? It should be impossible in nature. However, different times, philosophies, cultures, and kinds of education may induce different thoughts regarding the same phenomena. Acupuncture was mainly developed in pre-science times and dry needling was generated from the practice of conventional medicine. Thus, the two disciplines have different thoughts on the action mechanisms of needling.

Originally, acupuncture, as an ancient healing technique, was used to treat diseases and preserve health through balancing Yin and Yang and dredging the channels according to the theories and foundations of TCM. In the past 4 decades, acupuncture has grown rapidly in the West because of increasing research and has been widely integrated into the practice of conventional medicine in major Western countries.<sup>1,17</sup>

During the past 4 decades, acupuncture action mechanisms and channel-acupoint theory have been studied widely. Remarkable progress has been made and proposed mechanisms might include the gate control theory,<sup>31</sup> axon reflex,<sup>32</sup> theory of signal convergence-projection,<sup>33</sup> endogenous opioid peptides,<sup>33,34</sup> purinergic signaling system,<sup>35</sup> mechanical signal transduction in myofascial tissue,<sup>36</sup> plasticity and sensationalizing of acupoints,<sup>37</sup> and reflex arc theory.<sup>15</sup>

As the current first author's acupoints review stated in 2014, needling is the first step of acupuncture therapy. Needling reactions are the beginning of the healing process. Several research articles explored the three major needling reactions. These reactions are (1) neuronal, (2) biophysical,

and (3) biochemical in nature, leading to downstream effects. The messengers of the three reactions involved might include neurotransmitters, cytokines, hormones, and inflammatory factors. Healing may be potentiated through the messengers in neuronal and humoral pathways. The reactions may manifest as erythema and De Qi—both of which are common phenomena used as positive signs in acupuncture treatment—which could provide interesting evidence regarding the mechanisms of acupuncture actions.<sup>17,38</sup>

Dunning et al.'s 2014 review cited 24 action mechanism research articles on dry needling,<sup>27</sup> and most of them were derived directly from acupuncture research. Needles used in the majority of this research were acupuncture needles. The manipulations on the needles were either performed by hand or via electrical stimulation. Dunning et al. also concluded that, "while the terminology, theoretical constructs, and philosophies are different, the actual procedure of inserting thin monofilament needles, as used in the practice of acupuncture, without the use of injectate is very similar across professions."<sup>27</sup>

In comparison, dry needling originated from biomedicine and is firmly anchored in the body's anatomy, physiology, and pathology with regard to myofascial pain and therapeutic mechanisms. Essentially, all research results on needling reactions and mechanisms can be applied to dry needling. It is clear that research on dry needling is more focused on local structures—such as muscles, tendons, ligaments, connective tissue, nerves, and blood vessels—and somatic pain in these tissues because dry needling is a therapy or technique for treating myofascial pain. It is also common that acupuncture research would include dry needling research if acupuncture needles were used.

Although tremendous achievements in understanding needling mechanisms have been made and can be shared by the two needling techniques, very little is still known.

### Therapeutic Effects Overlap

Acupuncture as a technique was created in whole-systems of theory and practice of TCM and has very broad indications, including pain, arthritis, sinusitis, insomnia, and menopause, among other conditions. In total, acupuncture is recommended for treating 107 diseases, based on levels of evidence by the World Health Organization.<sup>39</sup> In fact, acupuncture has also been used as a healing art, for example, in the practice of constitutional Five-Element acupuncture focusing on whole-body regulation of *Shen*/Spirit and *Yi*/Mind, and *Qing*/Emotion and *Ti*/Body.<sup>40</sup> In Asian culture, acupuncture is commonly used to preserve well-being and promote longevity.<sup>19</sup>

Dunning reviewed acupuncture trials and noted that

the vast majority of the so-called "acupuncture" RCTs [randomized controlled trials] have used Western medical diagnoses...such as chronic neck pain, plantar fasciitis, knee

osteoarthritis, and carpal tunnel syndrome... Physical therapists should therefore not ignore the findings of large scale randomized controlled trials available in the Western or biomedical "acupuncture" literature that use the same "dry needles" to treat patients with neuromuscular conditions.<sup>27</sup>

Myofascial pain and dysfunction are important indications for most acupoints, but not every acupoint has the direct function of reducing pain. It is well known that myofascial pain is a shared indication for both dry needling and acupuncture. Biomedical progress in understanding needling action mechanisms by dry needling has promoted development of traditional acupuncture greatly, while many aspects of acupuncture and channel theory are not well-explained by contemporary science.

A very general search on PubMed using the term *acupuncture clinical trial* produced 5330 articles and *dry needling clinical trials* generated 74 articles (as of January 2016), which is further evidence that acupuncture has a very wide variety of indications. Although some theories in TCM such as Yin–Yang, Five-Element, Qi–Blood, Channels, and Meridians are not well-understood in contemporary bioscience, the therapeutic effectiveness of treating many Western-defined diseases with acupuncture cannot be limited or denied, although more high-quality studies are necessary. Why do the same needles have so much difference in their spectra of indications? The authors of the current review believe that the Chinese medical practitioner is steeped in the history, philosophy, and theoretical constructs of TCM, wherein the needles are tools used to affect the complexities of the body, mind, and spirit.

Indeed, there are many more similarities than differences between dry needling and acupuncture. Thus dry needling, as defined by Western medicine, is one type of acupuncture. Actually, traditional Chinese acupuncture was integrated with other cultures, generating new traditions such as Korean Acupuncture and Japanese Acupuncture and Five-Element Acupuncture. Contemporary science gave rise to electroacupuncture, scalp acupuncture, auricular acupuncture, wrist and ankle acupuncture, and abdominal acupuncture, etc. These techniques are used in Western medical acupuncture. Dry needling was derived from the practice of Western medical doctors. It should be part of Western medical acupuncture, as Zhou has explained.<sup>1</sup> Stated briefly, dry needling *is* acupuncture.

### What Caused the Conflicts and Debates in Professional Practice?

Acupuncture has been practiced in China for thousands of years and for >4 decades in the United States.<sup>1,17,19</sup> Unexpectedly, in recent years, an intense conflict and debate has developed between dry needling practitioners who are not physicians or acupuncturists and acupuncturists. A growing number of nonphysician physical therapists and other allied health professionals are now offering dry

needling to their patients. As discussed above, dry needling has a striking resemblance to acupuncture and uses the same needles. This raises two questions: (1) What happened? (2) How can the problem be solved?

There are three issues that might shed light on what happened.

The first issue is the growth of interest in both dry needling and acupuncture. The earliest mentions of dry needling and trigger points in the literature were made in the 1940s.<sup>5,8</sup> Acupuncture was formally introduced into Western countries since the visit of former U.S. President Richard Nixon (R) to China in 1972. Interestingly, based on a PubMed search, Table 1 shows that there was not much interest in dry needling (467 articles before the year 2001), compared to interest in acupuncture (8332 articles). Interest in both dry needling and acupuncture grew rapidly after 2000. The growth of interest in dry needling was 5.6% of acupuncture on average before 2001 and 10.86% after 2001.

Legge concluded: "The roots of dry needling, and the theory on which it is based, are quite distinct from the practice of acupuncture. However, without the interest in acupuncture in the mid-1970s and the introduction of acupuncture needles into contemporary practice it is likely that dry needling would never have become an established modality."<sup>4</sup>

Clearly, once dry needling was established, it has overlapped with acupuncture in many ways, including needles used, points targeted, needling techniques, action mechanisms shared, therapeutic effects, and scope of practice.

Legge summarized some plausible reasons that can explain the rapid adoption of dry needling. These are that dry needling uses acupuncture needles, the basics of dry needling can be taught quite quickly, science supports the importance of myofascial trigger points as a potent source of pain, and the clinical experience of using dry needling can be very satisfying for both practitioners and patients.<sup>4</sup>

The second issue is scope of practice. So far, there are 44 states that allow acupuncture practice. The first state that approved dry needling practice by physical therapists was Georgia in 2012. As of 2015, dry needling practice by physical therapists is allowed by legislation and administrative rules in 11 states.<sup>41</sup> It is good to see that dry needling

can help more people who have musculoskeletal pain and dysfunction. However, dry needling practice by physical therapists lacks accredited education and regulations, although the APTA has claimed dry needling is in the scope of physical therapy. Acupuncture has established a complete system of professional regulation, licensing, education, and training. The overlap in scope of practice between dry needling and acupuncture is one important factor causing the debate and conflict.

The third issue is public safety. In general, both dry needling and acupuncture are safe. There are a few reports of adverse events from dry needling and acupuncture.<sup>42-47</sup> Among them are dry needling treatments that were referred to as acupuncture, because of the media not being aware of differences between dry needling and acupuncture. As physicians are well-trained in needling procedures and clinical management, safety is not considered to be a problem. Physical therapists and other allied professionals who are not physicians or acupuncturists might lack the necessary training to do dry needling.<sup>1</sup> In contrast, licensed acupuncturists have received a minimum of 1905 hours of education (660 hours of hands-on supervised clinical training and 1245 hours of didactic instruction), while some physical therapists and other allied health professionals have had only a weekend training in needling techniques.<sup>48</sup>

## CONCLUSIONS

Both dry needling and acupuncture are needling therapies and share many things, such as solid filiform needles, target points, possible action mechanisms, therapeutic effectiveness, and some theories and foundations of biomedicine. Dry needling is one type of acupuncture. While dry needling is more widely practiced by nonacupuncture or nonphysician professionals, collaboration and integration between both groups is important in order to provide optimal service for patients. In addition to the competent treatment of musculoskeletal disorders and other diseases, safety of needling is most imperative, because inappropriate needling can be life-threatening. Acupuncture has established a

TABLE 1. GROWTH OF INTEREST IN DRY NEEDLING AND ACUPUNCTURE

Span of years	# of years	Key words		Average interest in dry needling as a % of acupuncture
		Dry needling # of articles	Acupuncture # of articles	
1941–1970	30 years	17	551	3.10%
1971–1980	10 years	27	1821	1.48%
1981–1990	10 years	123	2925	4.21%
1991–2000	10 years	300/467 (1941–2000)	3035/8332 (1941–2000)	9.88%/5.6%
2001–2015	15 years	1696	15615	10.86%

Based on a PubMed Search spanning the years 1941 to 2015.

complete body of regulations that should be useful for dry needling practitioners. Collaboration and development will be good news for needling practitioners and patients.

What solutions could resolve the conflict and debate between dry needling practitioners and acupuncturists? The following suggestions are proposed:

- (1) Share the resource of needling techniques and promote more collaboration and integration with conventional medicine and the healthcare system. Dry needling research would help in understanding the nature of needling action mechanisms and the theory of channels and acupoints in terms of biomedicine. Acupuncture would broaden applications of dry needling, for example, trigger points are not necessarily myofascial problems but may be visceral diseases manifesting through neural reflexes. Finally, trigger points might not be only phenomena of myofascial diseases, which could also include skin lesions, skin temperature changes, tightness, joint inflexibility, and numbness.<sup>15</sup> Acupoints can be physiologic points or pathologic points. *Ashi* points are pathologic points. Trigger points should be pathologic points that might be caused by joint structures instead of by muscles and fascia only or by distant problems. Thus, selection of distant acupuncture points is an important strategy for treating topical pain. Because of the association between the dermatomes and the viscera, acupuncture can be used to help treat visceral diseases.<sup>15</sup>
- (2) All needling practitioners should receive training in clean-needle skills, handling needles, and safety of needling in the body. Inadequate training would put patients in higher risk situations. Zhou et al. state: "Although needling therapy has been proven to be safe in general, healthcare professionals who are not physicians or acupuncturists need to develop their competence in order to provide skilled and proficient treatment and to prevent possible adverse events related to needling."<sup>1</sup> These adverse events could include injury of blood vessels, nerves, and organs.
- (3) Acupuncture needles are classified as Class II medical devices subject to strict regulations of the U.S. Food and Drug Administration<sup>48</sup> and need to be treated as such by anyone who uses them.
- (4) To avoid conflicts and confusion, and to guarantee public safety, establishment of regulations for dry needling is necessary so that individuals who are not physicians will receive adequate education and training and develop good competence for treating musculoskeletal disorders and perhaps other conditions.
- (5) Continuing education should be required for dry needling practitioners to update their knowledge and techniques; this education should be similar to what acupuncturists are required to complete.

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## CME Quiz Questions

### Article Learning Objectives:

After studying this article, participants should be able to summarize the history and development of myofascial needling using filiform acupuncture needles; describe the history of the adoption of the practice of dry needling in the non-acupuncturist practitioner population; explain the traditional category of *Ashi* or painful point needling in acupuncture practice; and discuss the features of acupuncture and dry needling in terms of: type of needle used, target points, action mechanisms, therapeutic effects.

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### Online CME Questions:

- The earliest instance of the use of the term dry needling described by the authors is:
  - The use in China of the term *Gan Zhen* in the 1900s, whose literal translation is “gan” (dry) and “zhen” (needle), to differentiate the use of acupuncture from the use of hypodermic needles for injections of medicines.
  - Brav and Sigmond in 1941, who documented that pain could be relieved by hypodermic needling without injection of any substance.
  - Janet Travel in 1952, who reported dry needling as an effective method for treating myofascial trigger points.
  - Karl Lewit in 1979, who reported that, compared to hypodermic needles, acupuncture needles produced less bruising and bleeding when needling myofascial tissue.
- Identify the incorrect statement. The authors cite:
  - The *Huangdi Neijing* (~100 BC) as first describing the phenomenon known as *Yi Tong Wei Shu*, which identifies painful spots as acupuncture points.
  - The Tang dynasty authority, Sun Simiao (581-682 AD), describing the identification of *Ashi* acupuncture points as spots painful when pressed, regardless of whether they are located on a principle acupuncture channel.
  - Classical Chinese acupuncture literature that states that only named acupuncture points on the 12 principle channels are valid acupuncture points.
  - Travell and Simmons’ description of myofascial trigger points as “a hyperirritable spot in skeletal muscle that is associated with a hypersensitive palpable nodule in a taut band. The spot is tender when pressed and can give rise to characteristic referred pain.”
- A central conclusion of this review paper is:
  - Acupuncture is a subcategory of dry needling.
  - A complete system of professional regulation, licensing, education and training for dry needling by non-acupuncturists and non-physicians exists.
  - Whereas there is known conflict regarding policy making and healthcare service, there is no dispute regarding professional interests between acupuncturists and dry needling practitioners.
  - Dry needling is one type of acupuncture when acupuncture needles are used.
  - The most basic difference between acupuncturists and dry needling practitioners is the target points used when treating myofascial pain.
- Choose the one statement below that is not true:
  - The term “dry needling” was first used in 1947 by Travel.
  - The American Physical Therapy Association published a 2012 resource paper stating that dry needling is invasive and is used to treat myofascial pain.
  - In 1941 Brav and Sigmond’s work included utilizing hypodermic needles without injection to relieve pain.
  - The term “dry needling” gained wider acceptance following Travel and Rinzler’s publication wherein the technique was described as treating myofascial trigger points.
  - Karel Lewit utilized acupuncture needles in his 1979 study and claimed that they were safer than hypodermic needles, producing less bleeding and bruising.
- The authors describe the debate over professional use of dry needling and acupuncture as related to all of the following except:
  - growth of interest in dry needling and acupuncture
  - scope of practice
  - training standards and public safety
  - improper use of traditional Chinese medical terminology and theory

**Continuing Medical Education – Journal Based CME Objectives:**

Articles in *Medical Acupuncture* will focus on acupuncture research through controlled studies (comparative effectiveness or randomized trials); provide systematic reviews and meta-analysis of existing systematic reviews of acupuncture research and provide basic education on how to perform various types and styles of acupuncture. Participants in this journal-based CME activity should be able to demonstrate increased understanding of the material specific to the article featured and be able to apply relevant information to clinical practice.

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