

The Difference between Acupuncture and Dry Needling a Historical and Practical Application

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Acupuncture

Technique for treating certain painful conditions and for producing regional anesthesia by passing long thin needles through the skin to specific points. The free ends of the needles are twirled or in some cases used to conduct a weak electric current. Anesthesia sufficient to permit abdominal, Thoracic, and head and neck surgery has been produced by the use of acupuncture alone. The patient is fully conscious during the surgery. Acupuncture as a method of medical investigation (but not for anesthesia) has been known in the Far East for centuries. But received little attention in Western cultures until the 1970's." (Taber's Cyclopedic Medical Dictionary, 16th Edition, 1989)

The online Miriam-Webster dictionary lists acupuncture as: "An originally ancient Chinese practice of inserting fine needles through the skin at specific points especially to cure or relieve pain (as in surgery)."

To understand it, let's take the word acupuncture and dissect that; Acus, in Latin means 'needle', and puncture (common English) is to pierce. This term was coined in the 1700s and continues to be used today.

Acupuncture as we know it now is the application of filiform needles (without any tube to deliver liquid). These needles are sterile, generally blister packed and designed to be disposed of. The points that they are inserted in are very specific and have been largely agreed upon for thousands of years. Each of these points has been organized into meridian lines which correspond with a functional organ of the body. Basically, there are, in some cases over 1,000 points, but it is common to study about 365 points along 12 meridians. There are also special points that are not on those meridians but generally align with nerves.

As for spasm treatment, acupuncture and dry needling are very similar, in fact nearly identical. When I was in Japan, I did some training with a physiotherapist that happened to be an acupuncturist. He showed me a technique he simply called 'Ashi' (basically means 'ouch'). The point of pain, as indicated by the patient and confirmed by the practitioner as a tight muscle with point tenderness (basically a trigger point) was used as the location of a larger diameter needle until it twitched or the patient felt what is called 'De-qi' or "Daychee". De-qi is the excitation of the point releasing or moving the energy. It is a feeling by the patient of warmth, soreness, ache, distention, heaviness, dull pain and even a sensation of 'energy' by the patient. This can be quite substantial and is always a good sign that the point was, in fact, located. Occasionally the patient will feel sharp pain, usually described as a pinch or poke. This is an obvious sign of being

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poked with a needle and I do not consider it a good indicator of anything except possibly anxiety or a basically functional nervous system in the area.

Dry Needling

A newer term (not found in my Taber's Cyclopedic Dictionary, 1989) has also been called trigger point needling, myofascial needling, medical acupuncture and others. Initial research finds mention of it by Dr. Janet Travell. She was the modern founder of the trigger point therapy techniques. It is also commonly held by practitioners in the West that Dry Needling has no ties to acupuncture historically, this, however is only partly true. Dr. Travel and others were using hypodermic needles to inject areas of muscle spasm as early as the 1940's. The common fluid (medicine) injected as either Lidocaine, Novocain, and more commonly corticosteroids, sometimes even saline may be used as a counter irritant.

Dry Needling according to the National Institute of Health is; 'dry needling is a skilled intervention that uses a thin filiform needle to penetrate the skin and stimulate underlying myofascial trigger points, muscular, and connective tissues for the management of neuromusculoskeletal pain and movement impairments' Ref: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4117383/>

In the 1970s it had been discovered that stimulation of the trigger point or spasm occurred even without injection of the medication at times. This stimulation and result came to be known as the 'twitch response'. It could be created without anything in the needle at all, thus, 'dry needle' was coined.

It was found that the results of dry needle and wet needle were actually comparable and acceptable to both the provider and patient. There were no side effects or problems with the

medications. Some of these side effects of using a medication for injection are; bleeding at the site of injection, increased pain, headaches, sleepiness, fever, high blood sugar, decrease in immunity because of suppressive effects of steroids, anxiety, stomach ulcers, a vascular necrosis (death of the bone because the steroid interfered with blood flow), infection, cataracts...

Side effects of dry needling are similar to those of acupuncture and include; bleeding, ache, or pain at the site after treatment. Infection is also possible although extremely rare as in wet needling. As long as either practitioner uses good prep and disposal there is little concern for infection. Notice that with the acupuncture and dry needling there are no 'other' symptoms related to an injectable substance because there is nothing injected and therefore no artificially provided biochemical change.

The Attempt to Separate

Currently there is a turf war over this technique and its definition. Physiotherapists, medical doctors, physical therapists, chiropractors and acupuncturists are all vying for reimbursement from insurance companies. The reimbursement is always related to the specific definition of a condition and the treatment.

So each of the types of providers has a stake in the claim and do not want the others to have that patient base and ability to bill for a specific procedure. Therefore we have the definition wars. Each of the provider types have different, even if slightly, definitions of dry needling and acupuncture. This ensures (according to each of them) professionalism, accuracy, and technique boundaries. A simple web search will show this to be true.

In reality there is some difference in the practice but only in definition. We see words like twisting vs. rotation of a needle or 'pistoning' as a way to explain a needle manipulation of pushing and pulling the needle. Each of these is well defined and designed to be specific. Some of the definitions, including that of dry needling itself have been because of research articles written in each of the prospective practitioners' journals. Once you start to really look and read the techniques, whether Eastern or Western are, by and large the same.

The Difference in Practice

So, the difference between acupuncture and dry needling is the topic here and that is what we need to focus on. In acupuncture, as it is largely practiced, deals with subtle energy and the flow of that energy as perceived by the practitioner not the patient (objective finding). Few patients will arrive complaining of a 'slippery pulse' in the spleen meridian. This is a rather typical finding in acupuncture used by a well-trained and proficient acupuncturist.

Having a muscle spasm is something that is both subjective and objective inspection. Having a spasm or 'ashi' point is in fact a part of acupuncture and is treatable with shallow needle work. Acupuncture generally goes to a depth of less than 1" (cun=body inch as indicated by the width of the patient's thumb on their body). Since most spasms people complain of are on the back, it stands to reason that also the needling in those areas will be shallow (less than 1cun). Of course this is only if the needle is inserted perpendicular to the surface. Angled insertion can go in much further.

There is no difference in the needles themselves. Unless the practitioner is using 'real' dry needling and wasting an entire syringe to do the work of a regular filiform needle. Acupuncture or dry needling needles come in various lengths. In my practice I use needles that are between 5 mm. in length (usually for hand, fingers, toes and facial acupuncture up to 125 mm. (that is about 5", used at an angle mostly or in people with significant subcutaneous fat. This way I can get to the muscle tissue). Somewhere in the middle of that range is the length for acupuncture needles by any given practitioner. Some prefer shorter or longer depending on depth needed and technique.

Another measurement of the needles is the diameter. In my office I use a very thin .18 mm (about 2-3x the thickness of a human hair from the head) (<http://www.schwarzkopf.com/en/hair-care/split-ends/hair-dictionary.html>) to .60 of a mm. This of course also is related to the length, a thin needle that is too long is flimsy and difficult to manage. One that is too thick but short not only looks imposing but also unable to perform the needed manipulations in the muscle or deeper tissues it is designed for. However, taking a hypodermic needle diameter, they are generally measured in gauge. Typically from about 16 to 29 gauge. That is about 1.6 mm to .30 mm (the larger the gauge the smaller the needle) this is at its largest size (30mm or 16 gauge) is the size of needle I prefer for most muscular dry needling. I often show people that I can put a few of my regular acupuncture needles inside a hypodermic needle. Most patients also relate this to possible perceived pain and helps with anxiety about getting the procedure. A smaller diameter needle will go in easier, a larger one will be more difficult to insert and will be felt by the patient more.

Sterile?

Patients ask me if the needles I use are sterile. Today, the needles are manufactured at plants that may also make other medical grade instruments. Mainly as I have seen needles are sterile when they are made and come in blister packs of one to ten needles. Each needle is stainless steel and some are covered in silicone to make insertion easier. All the needles are intended to be disposed of after a single use. A single use is generally per patient but may also be single insertion depending on the technique and need of the situation. In history, since metal is very difficult to come by and manufacture, a single needle was used and used again on other patients. Boiling the needle to clean or with cleaners such as alcohol or fire have been used. Previously to that the needle was rubbed on the hair of the practitioner to clean. Sebum, the oil released by the sebaceous glands at each hair follicle is generally antiseptic and this was understood hundreds of years ago. (Note, in the West and the world, penicillin was not discovered or used until the 1940s.) So in brief, the needles are sterile, they are used once and disposed of. This is true of syringe needles and acupuncture or dry needling needles. This way, we can reduce the possibility of infection.

Dry Needle Theory

Dry needling as explained using the filiform needles is as follows. There are a couple different theories and I will try to combine and explain in as little space as possible. First, there is the blood as an irritant theory. When a needle is pushed into

the muscle tissue there is bleeding. This causes an inflammatory response including heparin, histamine and other chemical inflammation mediators. This attracts white blood cells to start a repair process. Many times, the chronic spasm has been 'forgotten' by the system. Likely this is because it was a constant and consistent set of impulses to the central nervous system that eventually became 'background noise' or was eventually ignored as an alarm and became a 'normal' action of that set of muscle fibers. The new injury from the needling caused a whole new alarm and set of steps to evaluate and fix the issue. This is also why people generally can feel achy for a day or so after the treatment. Not at the points of insertion necessarily but in the muscle treated overall.

Other theories go into inflammation response, the twitch response, muscle spindle or Golgi tendon organ stimulation etc. I have only outlined the basic most accepted reasoning. This of course is not to diminish the work of acupuncture as it is done on the meridian points. Dry needling does not generally follow the specificity of the acupuncture points and may go far off a meridian line into a belly of a muscle elsewhere. This is the real only difference in the technique unless you are doing the 'ashi' style.

Trigger points have to be understood as well in this discussion. Dr. Travel and others found that there were two types of trigger points; latent and active. Active ones had referral pain that not always followed the nerve path, but did stick to the general myotome or dermatome. Latent ones were there when you palpated them but may not have symptoms otherwise. Once a trigger point, also commonly called knots or tsubos (Tsubos are tight points along the meridians in Japanese techniques. Ref: Tsubo, Vital Points for Oriental Therapy, by Katsusuke Serizawa, M.D.) are areas of increased tension in the set of muscle fibers. This blocks off incoming blood flow including nutrients like glucose, oxygen and water to the cells so that they can run properly. The tightness also reduces the release from the area of waste products such as lactic acid, carbonic acid, cellular debris and other products of cellular metabolism. To better understand this, please read about the pain spasm cycle for more detail.

Once the needle pierces the proper point on the muscle belly a twitch can be observed. This twitch is a good indicator that the muscle has held too much tension and is giving a release of physical, chemical and energetic tension. Other good signs are the 'red flash', redness around the needle indicating a proper inflammation response. The duration and circumference of the red flash spot is an indicator of general function of the whole body and area being treated. Another sign it is working is the feeling of

a deep ache or cramp by the patient in the treated muscle. This feeling will go away with some manipulation of the needle and will help the patient regain a communication with the area of treatment neurologically and consciously. Of course much of that is speculative and subjective. This is why acupuncture and dry needling do not react the same on every patient or even the same patient every time. Thinking holistically we have to also consider physical, physiological, psychological, environmental, cultural and even social aspects of the stress response and how the treatment will work. Many would simply write this all off to the placebo effect. We must also keep in mind that the placebo effect is present in every procedure that the patient is conscious and can be molded by all the expectations and suggestions involving the topics as listed above.

This brings us to the real difference between dry needling and acupuncture. Since traditionally performed acupuncture relies on insertion of needles into specific points called meridian points or acupuncture points and dry needling does not it stands that they are very different. Dry needling concerns itself with muscular pain and tension and may have points used not on the meridian system. However, taking into consideration the numerous 'special points' or exceptional points or whatever you would like to call them and that acupuncture does and has used needles to relieve spasm for over two millennia we are at an impasse. The dry needling practitioner does not need to know the meridians. Only knowledge of muscles, some physiology and general anatomy along with some palpation skill is needed by the dry needle practitioner. The acupuncturist may have knowledge of the meridians and the points but lack the palpation skills or musculoskeletal knowledge of the physiotherapist or chiropractor. Somewhere between the two we will find the answer. A practitioner of either sort would benefit from study of the other to enhance their skills and service to the public.

So, in my opinion, the only difference is the desired outcome by the practitioner. There is little to no real dry needling with a syringe done anymore. So I would venture to say dry needling is a part of acupuncture that was renamed for convenience. Call it what you will, the result is the goal. Pain free patients that can go about their daily lives in comfort.

Conflict of Interest

None.

Acknowledgement

None.