

Acu-Point

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Stimulation Methods

As a basis for understanding "toning", we must address abnormal tone of muscles, i.e. hypertonus and hypotonus, with the accompanying physiological basis for each.

First, abnormal muscle tone is a result of altered physiology, and is in complete accord with William Boyd's precept that "Disease is physiology gone wrong." Stanley Robbins goes on to state that "behind every organic illness there are malfunctioning cells . . . Within limits, the cell is capable of adjusting to varying demands. However, like the organism as a whole, its adaptive capability may be exceeded, and cellular injury or even death may follow."

In strong sympathetic discharge, vasoconstriction occurs in the skin, but vasodilation occurs in the skeletal muscles. (Norepinephrine stimulates sympathetic vasoconstrictive nerves and Alpha receptors in the skin, and Epinephrine stimulates sympathetic vasodilative nerves and beta receptors in the muscle.)

When an area has been put under sufficient stress (mental, structural, or chemical), an area becomes sensitized and may form an edematous "trigger point" due to formation of serotonin (vasoconstrictor) and hyaluronic acid (H₂O binder) which perpetuate (through the internuncial pool of neurons) the nerve cycle, according to Brendstrup. Only occasionally will a patient be aware of trigger points. According to Erwin, trigger areas may be located in any peripheral tissue: skin, subcutaneous tissue, superficial area of deep fascia, skeletal muscle, deep layer of deep fascia,

Periosteum, ligament. Meridian points are likewise sites of point edema. Dr. Felix Mann states "The only thing of importance in acupuncture is to stimulate the right place. **What the stimulus is, is of secondary importance.**" Dr. Robert Wilner, M.D., follows the lead of Dr. Jacques Lavier's French "Utilization Manual for the Chinese Points of Acupuncture of the Face in Esthetics - Control of the Dynamics of Wrinkles" with his *Touching Is . . . facial treatment* book. He states that wrinkles form from atony or hypertonus of muscles and/or dryness of skin, stating that the return of facial musculature to normal tone and the correction of skin dryness can produce marked improvement in the appearance of the skin and facial contour. In his seminar he teaches the use of many methods of stimuli to achieve this end (needles, TENS, galvanic, He-Ne Laser, etc.).

Excitation is the process of eliciting the action potential of a nerve. "Any factor that causes sodium ions to begin to diffuse inward through the membrane in sufficient numbers will set off the automatic, regenerative 'activation' mechanism," says Guyton, echoing Dr. Mann. Guyton goes on to mention several modes of chemical (acid, base, salt, acetylcholine), mechanical (crushing, pinching, pricking), electrical, and thermal (heat/cold) stimulation. The astute student of trigger-point and acu-point therapy will note that all of these stimuli are used to treat acu- and trigger-points. Now, "vasomotor tone" is controlled by the sympathetic nervous system. Nerve-mediated vaso-dilator action is seen following afferent nerve stimulation in the skin via the "axon

reflex." This vasodilation allows the exit of the metabolites causing perpetuated vasoconstriction and normalizes vasomotor tone plus any accompanying skeletal muscle tone involved in the vicious circuit. This allows more moisture to the skin via more normal blood flow, as well as more normal function of secretory organs.

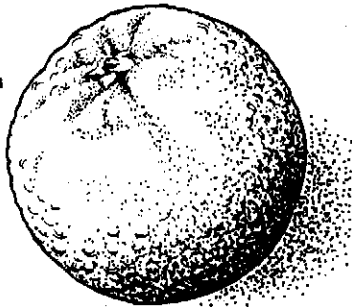
Unconscious control over bodily posture is guided by the Reticular Activating System, facial posture included. Any distortion in this system includes of necessity a measure of reciprocal innervation, flexor reflex, reciprocal inhibition, the crossed extensor reflex, and locomotion reflexes, all of which are involuntary, reactive and compensatory. Because of this, a reactive muscle could become hypotonic or hypertonic. This is relieved when the malific function is corrected via treatment of acu- or trigger-points.

Reciprocal Innervation is the phenomena whereby excitation of one group of muscles is associated with the Reciprocal Inhibition of another group. These relationships not only exist on one side of the spinal cord (such as bicep contraction with simultaneous tricep relaxation), but also between the two sides of the cord, as is described by the following:

Almost any type of stimulus to a limb is likely to cause the flexor (and other) muscles of the limb to contract strongly, thereby withdrawing the limb from the stimulus. In its classical form, this Flexor Reflex is elicited most frequently by stimulation of pain endings. The pathway is first into the interneuronal pool of neurons and then to the motoneurons. This same principal applies for

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any part of the body, but especially to the limbs.

Immediately after the flexor reflex is elicited, the opposite limb begins to extend to push the entire body away from the object causing the stimulus. This is called the Crossed Extensor Reflex.

Reciprocal Innervation is also important in most of the cord reflexes that subserve locomotion, as it helps to cause forward movement of one limb, while causing backward movement of the opposite limb, and it also causes alternate movements between the forelimbs and the hindlimbs. Put this knowledge together with the fact that trigger/acu-points cause pathological sustaining of nerve signals and I believe some heretofore unexplained (or previously poorly explained) phenomena may become clarified in view of known neurological phenomena.

For example: One unexplained phenomena of acupuncture is that a stimulus placed to the same point, but on the opposite side of the body, will obtain results. This could well be treating a motor or similar acu/trigger point to release a pathologically sustained crossed Ex-

tensor Reflex.

Another unexplained phenomena in acupuncture is a stimulus placed at the opposite end of the body to obtain results. Consider pathologically sustained locomotion reflexes from one end of the body to the other.

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As a separate discourse, there is also a correlation explaining nerve relationships with organ function as they relate to such disciplines as hand and foot acupuncture/reflexology.

In recent years much work has been done with polarized electromagnetic wavelengths (laser) in relation to the correction of bodily dysfunction. In any type of stimulation of acu- or trigger

points, the Arndt-Schultz Law ("Weak stimuli activate physiological processes; very strong stimuli inhibit them") comes into play by stimulating action potentials. Action potential is initiated by positive charges creating a "positive electric field that protrudes far into "sodium and potassium channels, according to the "gate theory", and "changing the inside electrical potential from negativity to positivity".

The red (and infra-red) portion of the electromagnetic spectrum is like south pole energy in that it is positive in polarity spectrum. Drs. Davis and Rawls found that positive polarity (red spectrum light or south pole energy) promotes wound healing and an increase in protein and oils and other factors in both plant and animals. They also found that positive polarity activates nerve response (as per the previous paragraph) as well as strengthening the nerves and their resultant responses. They also noted resultant muscle stimulation with positive polarity.

Motor points are normally the most excitable points of muscles, represent the greatest concentration of nerve endings, and are located in the skin over the muscle, corresponding approximately to the level at which the nerve enters the muscle. The reticular activating system has both inhibitory and facilitatory areas. According to Chusid, "appropriate stimulation of the inhibitory area decreases muscle tonus; similar excitation of the facilitatory area increases muscle tonus." He also states, "hypotonia may occur with impaired muscle proprioceptive or motor innervation", and states similar methods of stimulating these centers via peripheral nerves to produce a more normal tonus as being used to treat trigger and acu-points. These are the best skin areas to stimulate muscle tonification.

Concerning He-Ne laser use, many experiments have been performed. The wavelength is ruby (red). A fifteen year study at Balassa Hospital, Budapest, Hungary showed ulcer healing, stimulated hair growth, increased collagen production, proliferative vascular activity, and increased prostaglandin production as a result of He-Ne laser use. Cignolini, of Milan, Italy, reports He-Ne laser, 1mW, beam divergence of 0.6 m rad has a penetration of 3 to 4 mm and is good for only superficial stimulation of acu-points, while infra-red Ga-As laser,

3mW, 904 mm wavelength penetrates up to 15mm and mimics deep needle techniques.

German scientists report that the He-Ne laser significantly increases granulation tissue, mast cells, and epidermal regeneration in healing wounds. Hungarian scientists report that the He-Ne laser application leads to an "enhanced epithelial regeneration in which a higher DNA synthesis rate, faster cell proliferation, an increase of the number of cells engaged in DNA synthesis, and a shortening of the cell (replication) cycle involved in wound healing result. It is interesting that the papers report first inhibition, then stimulation of the processes mentioned above, using He-Ne laser, as well as in nerve response.

Kellner's histological studies show acu-point differentiation by predominance of receptors (Krause, Malphigian, Ruffini, Hoyer-Grosser, etc.) and effector attributes (motor points). These lie in the subcutis and corium, and stimulus of these via manual, electromagnetic (i.e. light), thermal, or chemical means produces a response in connective tissue and neural structures located there. Bischko, in several control studies, found He-Ne laser to be equal in measured effect to needle therapy. He also found that this laser need be applied only one-tenth the time of needle application, but that the laser does not equal deep-needling techniques due to limit of penetration. However, he also states that the uses of deep needling are not necessary for therapeutic success. In conclusion he stated that there is no significant difference between patients treated with laser and those treated with needles in all studies. Conditions treated in his study included ulcer of the leg, stomatitis, wounds which do not heal well, scars from herpes zoster neuralgia, painful corns, etc.

Kleinkart and Foley, using 1mW He-Ne laser, find immediate subjective and objective relief of muscle spasm and reduction of edema owing to: depolarization and repolarization of abnormally contracted muscle fibers; relief of arteriolar spasms in the affected areas with reactive vasodilation; or electron excitation in the mitochondrial membranes with changes of transport and metabolic processes.

In conclusion, acu-points are decidedly neural in function and may be stimulated to favorably influence maltonic muscle to proper tonus, both skeletal and visceral (blood

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vascular), influence nerves to function properly, and influence healing regenerative factors as a result.

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