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Integration of Acupuncture and Manipulation

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The purpose of this article is to provide the family practitioner with acupuncture techniques that, when combined with manipulative treatment, will often be useful.

Frequently, the addition of simple acupuncture needling techniques will improve clinical results by shortening the course of treatment, reducing patient discomfort, and obviating the need for pharmacologic and physiotherapeutic adjuncts.

I have focused attention on the practical application of acupuncture for the physician who has had little or no experience in acupuncture needling techniques. Understanding traditional acupuncture theory is not required for the incorporation of the techniques described into the physician's therapeutic methods.

Techniques and Equipment

All of the techniques described may be employed using 25- or 27-gauge disposable hypodermic needles or both. The length of these needles need not exceed 0.5 in. I recommend the use of disposable needles to avoid the possibility of cross infection and to eliminate the need for sharpening.

In all needling applications, simple transcutaneous needle penetration into the immediate subcutaneous tissue is all that is required. I think that this type of acupuncture recruits cutaneo-somatic and cutaneo-visceral reflexes, the receptors for which are located in the deep layers of the dermis and the immediately underlying subcutaneous tissues.

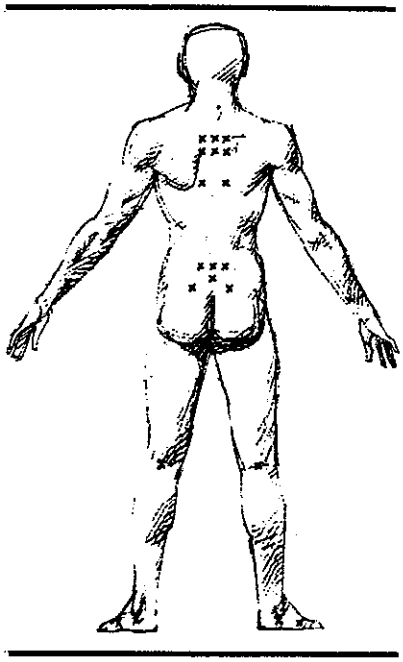
Generally, needle penetration into deeper investing fascial planes is to be avoided. This type of deep penetration will often result in the patient's discomfort

since the planes of the skin and investing fascia move in relationship to each other. This does not mean that deep-fascial needling may not be effective in given instances; however, it is not required for any of the acupuncture applications described. Deep-tissue acupuncture needling requires a more in-depth knowledge of its principles and theories.

If a needle is painful to the patient after its insertion, the physician should first ascertain whether penetration into the deeper structures has occurred. This can usually be done by slightly reducing the depth of penetration. If pain is reduced momentarily, this adjustment of penetration depth is all that need be done.

The pain that is produced by a needle that has not penetrated the deeper tissues can usually be terminated by gently tapping the needle hub with the forefinger while grasping the needle between thumb and middle finger for support so that its position is not disturbed. If the physician prefers to apply a rapid but gentle rotating motion (90° to 180°), this technique will also eliminate pain from needle penetration. Often tapping or twirling a needle placed in the contralateral anatomical counterlocus of the pain-producing needle is also a very effective method of reducing patient discomfort.

Often the patient's pain will begin to subside in seconds or minutes after the needle insertions, and tissue tension will begin to noticeably subside should the physician choose to monitor by palpation. If the desired results do not occur rather quickly, tapping or twirling the needles as described for a minute or so will usually prove effective.



The exact location of the loci for needle penetration can frequently be determined by light palpation. The effective locus will usually be different from the surrounding tissue. It may be described as being more firm and would seem to represent a subcutaneous fibrous nodularity. Heavy and deep palpation may obscure these locus characteristics to the physician.

If the examiner is unable to locate the acupuncture points by palpation, the anatomical description given for each point will usually bring the needle within a quarter inch of the optimal location. This proximity will ordinarily suffice to obtain the desired therapeutic effect. In these circumstances, I have found that an angle of insertion of 30° to 45° widens the area of needle stimulus to the skin and further increases the chances of stimulating the desired skin locus.

The length of time that the needles are left in place is largely dictated by patient response to needling and by convenience to the physician as the remainder of the treatment is done. No ill effect has been observed as a result of prolonged needle placement. On the other hand, the patient can tell you when the maximal benefit has been achieved.

Complications and Risks of Acupuncture

The complications and risks in the usage of acupuncture as given are minimal if the physician uses reasonable caution.

Cross Infection—Risk is totally obviated if the physician uses disposable needles once and discards them after usage.

Infection—Sterile techniques should, of course, be used whenever the integrity of the skin is violated. The risk of infection as a result of acupuncture is no greater than the result of any other procedure that causes the skin to be penetrated by a needle.

Needle Breakage—This mishap can only occur because of a physician's carelessness. Transcutaneous needle placement does not subject the needle shaft to any shearing forces. Deep-needle penetration is not recommended for the inexperienced.

Syncope—The threat of syncope and falling with resultant injury can be very real when the patient is in the sitting or standing position during the needling procedure. Whether this is a result of the psychological effect of needles, vagotonia, or other causes is unimportant. What matters is that the physician or an attendant closely observe the patient for signs of syncope and take steps to prevent injury to the patient from falling should this mishap occur. I

(to p. 24)

(from p. 20)

have never seen a recumbent patient lose consciousness, nor any patient who did not regain consciousness momentarily after being placed in a recumbent position. Some needles may have to be removed to place the patient in the desired position—either supine, prone, or lateral recumbent positions are satisfactory.

Bleeding Through the Lumen of a Hypodermic Needle—This is not a serious problem, although it may frighten the patient. Usually, needle position adjustment is adequate to solve the problem. An inadvertent venopuncture may require needle removal and pressure to prevent subcutaneous hematoma formation.

Hematomas—These are occasional complications and represent no real health problem. They should be treated as any other hematoma. The physician should be alert than an underlying blood dyscrasia may be present.

Pneumothorax, Peritonitis, and So Forth—A few instances of pneumothorax and peritonitis have been reported resultant to acupuncture. Obviously, this should not represent a problem when using the superficial transcutaneous needling techniques discussed. Furthermore, any physician with a reasonable knowledge of anatomy should not have these complications.

Figure 1: Needle placements to reduce low-back and pelvic muscle spasm (bilateral).

Acute Low-Back Pain

The patient with acute low-back pain can be offered rapid, partial-to-complete relief of muscle spasm and pain by the insertion of two needles through the skin of the face.

The loci for these needle insertions are bilateral at the intersections of lines drawn transversely through the corners of the mouth and the anterior borders of the masseter muscles (Fig. 1).

The needles may be inserted when the patient is standing, sitting, or recumbent. Very often the patient may assume the desired position for proper examination more easily after the effect of the needle has occurred—usually in three to five minutes.

The needle insertion is through the skin into the subcutaneous loose connective tissue. The direction of insertion is approximately perpendicular to the skin surface. The needle should not penetrate the investing fascia of the masseter muscle, nor should it penetrate the mucous membranes of the mouth.

Insertion of the needles before examination of the musculoskeletal system is done will usually relax the musculature of the lumbosacral area and pelvis. It will also allow for spontaneous correction of functional leg length discrepancies.

The advantages of using this needling technique before osteopathic examination and treatment are many.

(1) Patient comfort is increased before musculoskeletal exam and manipulative treatment.

(2) Physician time spent for accurate examination and treatment is reduced by the reduction of secondary musculoskeletal dysfunctions. The physician is able to accurately focus on the primary problem more quickly.

(3) Reduced duration of a treatment program.

(4) Reduced need for pharmacotherapy.

(5) Reduced need for other physiotherapeutic modalities aimed at symptomatic relief.

Sciatica

The patient suffering from acute sciatica will very often receive some benefit from the needle placements described in the previous section. In addition to those needle placements and with the patient in a supine position, these needle insertions may be done.

(1) Bilateral needle insertion posterior to the lateral malleolus and anterior to the Achilles tendon. Insertion is perpendicular to the skin surface and is 0.25 to 0.50 in deep. In three to five minutes if pain persists or is only partially relieved, proceed with the next insertion.

(2) Bilateral needle insertion immediately distal to the prominence of the proximal tuberosity of the fifth metatarsal on the line formed by the skin change from the sole to the dorsum of the foot. Needle insertion is about 0.25 in deep and approximately perpendicular to the skin surface. If further relief is desired after two or three minutes, proceed to the next step.

(3) Carefully palpate the anterior border of the fibula beginning at the lateral malleolus and moving proximally toward the fibular head below the knee. Any areas of acute tenderness or tissue texture change should be needled bilaterally. The contralateral anatomical counter locus on the asymptomatic side should be needled first to reduce the pain of needle insertion on the involved side. These needle insertions are approximately 0.25 in deep and either angled or perpendicular to the skin surface. The physician should be careful not to penetrate the deeper fascias in these areas because this deep penetration will often result in temporary but considerably increased patient discomfort (Fig. 2).

Should the pain persist after the insertion of all the needles, it is recommended that the physician stimulate all the needles one at a time by either tapping or twirling as described.

Figure 2: Needle placements for relief of sciatic pain (bilateral).

Contrary to commonly held opinion, acupuncture needling treatment is not merely analgesic. Relief of pain is often lasting.

In most instances, these needling techniques will greatly alleviate pain allowing for quicker and more precise musculoskeletal diagnosis and manipulative treatment.

Contrary to commonly held opinion, the effect of this treat- Instances of persistent sciatic relief of pain is often lasting. Instances of persistant sciatic neuritis after manipulative correction of the primary somatic dysfunction have been rare in my experience.

Should no relief of pain be achieved even temporarily using these needling techniques, the physician should seriously consider a real nerve root compression problem as a viable diagnosis.

The aforementioned needling techniques may also offer excellent clinical results in postsurgical cases of sciatica where nerve root decompression has been accomplished but sciatic pain persists.

Acute Sacroiliac Dysfunction

Specific sacroiliac motion restriction may be a contributing factor in acute low-back pain or in sciatica or in both. It may also occur discretely, manifesting localized pain in the sacroiliac region.

Frequently, as the previously described needling techniques are done and the patient's pain syndrome changes, the presence of acute sacroiliac dysfunction may become apparent.

Before the application of specific manipulative techniques aimed at mobilizing the sacroiliac, the insertion of needles for a few minutes may facilitate the mobilization of the joint.

The patient may be either seated or in the prone position for needle insertion. If the patient is seated, observation for signs of syncope should be made. If it should occur, the patient can be placed in the lateral recumbent

position without removing the needles.

The physician should identify the bony prominences that represent the posterosuperior iliac spines. Bilateral needles should be inserted medially to the bony landmarks and over the sacral sulci. Next, a needle should be inserted on the midline over the space between the spinous processes of L-5 and S-1.

The tissues over the lateral aspects of the sacrum should be carefully palpated for acute tenderness or subcutaneous fibrous changes or both. This palpatory examination should proceed in a caudad direction beginning just beneath the needles that are located medial to the posterosuperior iliac spines. All areas of tenderness or tissue change over the scaroiliac joints should be needled bilaterally.

Palpation in a caudad direction down the midline for tenderness and tissue change should then be done and these midline areas, if located, should be needled.

The best effect from the aforementioned needle insertions can be obtained by angling the insertion through the skin at 30° to 45° and directing the needles from a cephalad to a caudad position as they are inserted. The final midline insertion should not be below the coccyx bone, nor should the laterally placed needles be below the inferior lateral angle of the sacrum (Fig. 3).

Very often, the skin will react by turning red around one or more of these needles. This reaction usually carries with it a favorable prognosis. In addition, reddened areas of skin may appear laterally over the buttocks. Improved results can be obtained if transcutaneous needling is done in these reddened areas. As the needle effects become maximal, the red reaction will dissipate. There is no further benefit to be obtained by leaving the needles in place any longer.

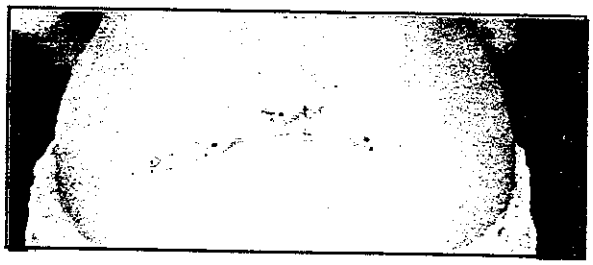


Figure 3: Needle placements used for discrete sacroiliac dysfunction.

Figure 4: Needle placements used for mobilization of L-5 on sacrum.

Usually, the physician will notice a distinct reduction in tissue tension and tenderness after removal of the needles. Also, the sacrum will be much more mobile. The sacroiliac restrictions, as well as the patient, will be much more amenable to specific manipulative treatment.

Almost invariably, a somatic dysfunction of the sacrum is accompanied by involvement of L-5. Three additional needle insertions can be made that will mobilize L-5 while the sacroiliac needles are in place. These needles are similarly inserted at an angle through the skin in a cephalocaudal direction. The needles are inserted on the midline over the space between the spinous processes of L-4 and L-5 and bilaterally, 0.5 in lateral to this first needle. If the skin reacts by turning red laterally from these needle placements, further needling can be done in a manner similar to that described previously for the sacrum (Fig. 4).

Specific Intervertebral Motion Restrictions

Mobilization and pain control by acupuncture for localized and specific vertebral and intervertebral somatic dysfunctions of the spinal column can be successfully treated to increase mobility and reduce soft tissue tension by applying a similar approach to that described for L-5. The needle insertion is always 0.25 to 0.50 in deep. Needles are inserted at an

(to p. 103)

(from Acupuncture, p. 27)

Figure 5: Needle placements used for mobilization of specific vertebra.

angle to the skin surface on the midline in the interspinous spaces above and below the principally involved vertebra and approximately 0.5 in lateral on both sides of the midline needle placements. These needles can be left in place for a few minutes until the desired effect is achieved. The patient can either be sitting or lying in the prone position. When pain reduction and tissue relaxation have occurred, the physician is able to achieve correction of the specific somatic dysfunction much more easily and precisely (Fig. 5).

Acute Intercostal Neuralgia and Herpes Zoster

In my experience with more than 100 cases of herpes zoster and many more cases of intercostal neuralgia, acupuncture treatment has been effective. The relief of acute pain is momentary and the acute rash of herpes zoster will often become noticeably less inflamed in a matter of minutes. Usually if the treatment is repeated three or four times depending on the recurrence of symptoms, the physician may be reasonably assured of a cure.

The level of segmental involvement is irrelevant in the acupuncture treatment of intercostal neuralgia. However, the treatment varies with the side of involvement.

If the left side of the thorax is involved, needle placements are used as described:

(1) bilateral—approximately 1 in anterior to the medial malleolus in the depression just medial to the tendon of the anterior tibialis muscle;

(2) bilateral—approximately 0.25 in beyond the tips of the 11th ribs;

(3) bilateral—in the interspace between the sixth and seventh ribs on the mammillary line;

(4) bilateral—approximately 1.5 in lateral to the inferior border of the spinous process of T-7;

(5) bilateral—approximately 1.5 in lateral to the inferior border of the spinous process of T-9; and

(6) bilateral—approximately 2 in above the ventral crease of the wrist between the radius and the ulna, just medial to the tendon of the palmaris longus muscle.

If the right side of the thorax is involved these needle placements should be used:

(1) right side only—in the intercostal space between the sixth and seventh ribs on the mammillary line (no. 3 for left side of thorax);

(2) bilateral—approximately 1.5 in lateral to the inferior border of the spinous process of T-9 (no. 5 for left side of thorax);

(3) right side only—approximately 2 in above the ventral crease of the wrist between the radius and the ulna, just medial to the tendon of the palmaris longus muscle (no. 6 for left side of thorax);

(4) on the ventral midline as it intersects a transverse line drawn between the nipples with the patient in the supine position;

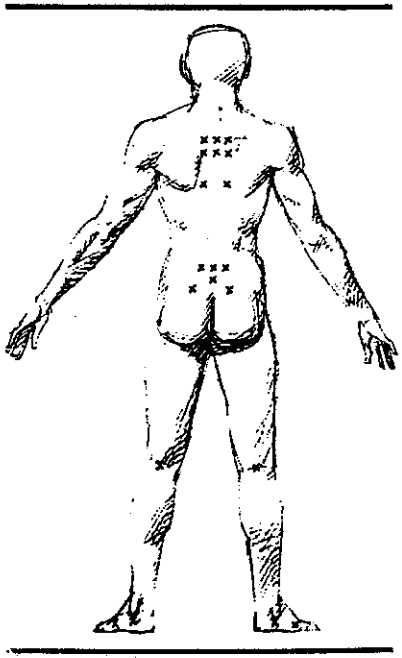
(5) on the ventral midline half way between the xiphoid tip and the umbilicus with the patient in the supine position;

(6) on the right side—over the fifth intercostal space approximately 6 in lateral to the ventral midline. This point is best located by palpating the intercostal space;

(7) on the left leg—approximately a third of the way down the lateral aspect of the tibia. This point is best located by palpation;

(8) on the dorsum of the left foot—anterior and inferior to the lateral malleolus in the depression lateral to the tendon of the exterior digitorum longus muscle.

These needle insertions will usually alleviate the acute pain quite rapidly. Specific manipulative corrections of musculoskel-



etal dysfunctions involving ribs and thoracic vertebrae can and should be made during the period of acupuncture analgesia.

The usual course of treatment involves visits with the patient on two or three consecutive days. Return visits can then be made when necessary for pain or reoccurence of rash.

The physician should expect complete resolution of the problem and will seldom have to settle for less. The early stages of acute herpes zoster have been observed to respond more completely and quickly. Postherpetic neuritis cases require more prolonged courses of treatment with more return visits.

In resistant cases of postherpetic intercostal neuritis, I have had some favorable results by injecting 500 μg of vitamin B_{12} into each acupuncture point before applying manipulative treatment.

Mobilization of the Diaphragm

The diaphragm is a muscle that has always been of prime importance in the osteopathic conceptual framework. Because of its anatomical location, it functions to separate and interrelate the thoracic and the abdominal viscera. It has great implications in terms of somatovisceral and viscerosomatic reflexes.

Before the application of manipulative therapy aimed at the mobilization of a restricted diaphragm, the physician's task can be greatly simplified and the desired effect of the manipulation greatly enhanced by the transcutaneous insertion of two needles.

These needles are inserted at a cephalocaudad angle to the skin surface to a depth of 0.25 to 0.50 in. The needling is done bilaterally, approximately 1.5 in lateral to the lower border of the spinous process of T7. The exactness of needle placement can be enhanced by palpation for exquisite subcutaneous tenderness or nodular fibrosity or both. When found by palpation, the skin overlying these areas should be needled. The beneficial effect of properly placed needles will become apparent in a few minutes. This needling should always be followed by appropriate manipulative techniques to mobilize the diaphragm, specifically the thoracolumbar junction, the whole thorax, and the lumbar spine.

Osteopathic training in understanding the neuromusculoskeletal system, coupled with highly developed palpatory skills, provides the osteopathic physician with a distinct advantage in the application of acupuncture therapy.

Relaxation of the Cervical Musculature by Acupuncture

Very often in a family practice, the physician is confronted by the patient suffering from acute somatic dysfunction of the cervical area. Because of pain and limitation of motion for the patient, the physician may find it expedient to use a muscle relaxant medication or physiotherapeutic measures or both to prepare the patient for proper manipulative treatment.

Bilateral transcutaneous needling of the exact midpoint of the posterior transverse popliteal crease will often reduce the pain and muscle spasm, thus enabling the physician to perform the indicated manipulative correction of the somatic dysfunction. The effect of the needling takes five to ten minutes. The needles are inserted perpendicular to the skin surface and penetration is about 0.5 in deep.

Acupuncture for Headache

For the purposes of applying acupuncture treatment for the relief of headache, some general etiologic classifications should be made first.

Increased Intracranial Pressure—There are four needle placements that can be used to reduce intracranial pressure in a matter of minutes. This treatment procedure is effective for temporary relief of cephalgia because of a brain tumor, postcraniotomy cephalgia, the so-called "spinal headache" that follows lumbar puncture, cephalgias related to encephalitis and meningitis, cephalgia that is a result of toxic arachnoiditis, and many vascular types of headaches.

Experience has shown this acupuncture treatment to be reliable enough to offer differential diagnostic evidence in favor of, or in opposition to, increased intracranial pressure as an etiologic contributing factor to the headache. I have treated a broad spectrum of problem headache instances using this acupuncture technique.

The needles are inserted in the following manner.

(1) Bilateral insertion into the plantar surface of the foot posterior to the prominence of the

Figure 6: Needle placements in feet used for treatment of headaches because of increased intracranial pressure.

Figure 7: Needle placements in face used for treatment of headaches because of increased intracranial pressure.

second and third metatarsophalangeal joints (best located with the toes plantar flexed). Insertion is approximately perpendicular to the skin surface and 0.5 in deep (Fig. 6).

(2) Needle insertion at the intersection of a line drawn transversely through the medial extremes of the eyebrows and the midsagittal plane. Insertion is cephalocaudad in direction at an angle of 30° to 45° to the skin surface so that the needle aims toward the nose. Insertion to a depth of 0.25 to 0.50 in is adequate. The physician can expect a red reaction around the needle (Fig. 7).

(3) Needle insertion is made on the midline half way between the skin change of the upper lip and the base of the nose. This needle should be inserted 0.25 to 0.50 in deep and aimed at about 45° upward toward the nose (Fig. 7).

In a matter of a few minutes, this needling procedure will greatly reduce cephalgia of varying degrees of severity if intracranial pressure is a contributing etiologic factor. If no reduction of pain occurs in five minutes, the physician should strongly suspect other etiologic possibilities.

Two colleagues and I observed that the amplitude of the cranial rhythmic impulse is increased almost immediately after needling these four points. This effect reduces the time required for effective application of craniosacral osteopathic manipulative treatment.

Not rarely, a severe but generalized cephalgia will respond to this method of therapy by localizing at a specific area topographically related to a cranial suture. This circumstance is often effectively treated by needling the scalp directly superficial to the painful area. The needle should be inserted at an acute angle to the scalp so that it does not encounter the skull periosteum and so that its direction roughly approximates the direction of the involved suture. Frequently, the sutural pain will acquiesce very quickly, sutural restriction will abate and, in many instances, further treatment will not be required.

For the physician who is inter-

(to p. 110)

(from p. 105)

Figure 8: Needle placements in feet (bilateral) used for relief of "tension headache."

Figure 9: Needle placements in hands (bilateral) used for relief of "tension headache."

ested in an osteopathic approach to treating the cranium, it is quite interesting to monitor the parasutural areas during and after scalp needle insertion. The rapid release of restriction to motion and the change in tissue texture are quite remarkable. I have frequently used this needling technique as an adjunct during cranial manipulation as an aid in freeing resistant restrictions of cranial vault sutures.

Cephalgia Resulting from Nervous Tension—Cephalgia that is a result of nervous tension is very effectively treated by acupuncture followed by appropriate manipulative techniques of the cervical area and the craniosacral mechanism.

Often nervous tension itself will respond to the needling that reduces intracranial pressure. If this is so, the alert physician should suspect that the nervous tension is not primary, but may be secondary to very subtle increases in intracranial pressure.

The acupuncture treatment for the true tension headache will usually relax the patient and relieve the headache very rapidly.

The needle insertions are (1) bilaterally, 0.5 in below the inferior aspect of the external malleolus—insertion is perpendicular to the skin surface and 0.5 in deep (Fig. 8); and (2) bilaterally at the end of the transverse crease of the half-clenched hand, proximal to the fifth metacarpophalangeal joint—needle insertion is perpendicular 0.25 to 0.50 in deep (Fig. 9).

Atlanto-occipital Somatic Dysfunction—When atlanto-occipital somatic dysfunction is a contributing factor to cephalgia either singularly or in addition to nervous tension, these needle placements have been found to be helpful before application of manipulative technique for the mobilization of that joint. Very often needling the areas described under the previous heading—the second method described—is helpful before specifically needling for atlanto-occipital joint dysfunction.

(1) On the midline directly below the posteroexternal occipital protuberance (inion). Insertion is perpendicular to the skin and 0.5 in deep.

(2) On the midline between the spinous processes of C-1 and C-2, insertion is perpendicular and 0.5 in deep.

(3) On the midline between the spinous processes of C-7 and T-1 perpendicular to the skin, the insertion is 0.5 in deep.

(4) Palpate carefully along the inferior aspect of the occiput. All areas of tissue tension, subcutaneous nodular fibrosity, and acute tenderness should be needled bilaterally. Needle the anatomical counterpart (locus) of each point found by palpation on the opposite side in addition to the actual site located by palpating. Needle insertion should be aimed medially at about 45°. The depth of insertion should be 0.5 in.

(5) For bilateral insertion of needles in the dorsum of the hand between the thumb and forefin-

The physician should not resign from using acupuncture because he does not agree with the explanations given for why it works. It works, and patients will benefit from the use of this skill.

ger, these points may be located by having the patient forcibly approximate the thumb to the second metacarpal. The highest point in the muscle should be needled. Insertion is perpendicular about 0.5 in deep.

Concluding Remarks

Hopefully, the acupuncture techniques presented in this article will be useful to the physician who is courageous enough to try them. Neither acupuncture nor any other therapeutic modality is a panacea. However, the integration of manipulation and acupuncture, which seems more than additive, will greatly enhance the physician's therapeutic effectiveness.

Osteopathic training is unique in that it focuses on the role of the neuromusculoskeletal system as it relates to patient care. This additional understanding of the neuromusculoskeletal system, coupled with highly developed palpatory skills, provides the osteopathic physician with a distinct advantage in the application of acupuncture therapy.

Once the physician has experienced the "feel" of the effective acupuncture point, needled it, and observed a positive therapeutic response, he will realize that acupuncture is not a form of mystical art. By careful palpation, it becomes obvious that acupuncture points are similar to Chapman's reflex areas, trigger zones, and so on.

Acupuncture is more than 5,000 years old. By virtue of its history and much trial and error experience, it has evolved into a highly organized system of a healing art for which has been postulated a functional conceptual model of "meridians" and "energy flow." The practicing physician need not accept the theory of acupuncture to take advantage of its therapeutic efficacy. He need only insert needles transcutaneously in anatomically well-defined loci that are prescribed for use in specific syndromes.

The interested physician who is encouraged to delve into acupuncture meridian theory will find that the addition of this theoretical knowledge to his osteopathic skills will enhance his therapeutic efficiency. The physician who decides to study acupuncture meridian theory should do so with an open mind and accept the explanations given by the ancient practitioners as functional hypotheses. The physician should not resign from the use of acupuncture because he does not agree with the explanations given for why it works. What is important is that it does work, and patients will benefit from the physician's newly acquired skill. []