

# HMI Auricular Trauma Protocol: An Acupuncture Approach for Trauma Spectrum Symptoms

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## ABSTRACT

This article describes a six-point auricular acupuncture protocol to influence the neuroanatomical and psychoemotional targets of trauma. This protocol can be used immediately or years following the noxious experience. The article addresses the rationale for combining these points, their locations, and methods of stimulation, as well as briefly discussing anecdotal experience in military and civilian populations. The protocol is presented as a simple and safe intervention of potential value for addressing the multiple manifestations of the trauma spectrum.

**Key Words:** Trauma spectrum, auricular acupuncture, post-traumatic stress disorder, PTSD, traumatic brain injury, TBI

## INTRODUCTION

**T**RAUMA SPECTRUM SYMPTOMS are experienced by far more active duty and veteran military service members than the numbers of such cases reported in the post-traumatic stress disorder (PTSD) and mild traumatic brain injury (mTBI) literature.<sup>1</sup> Symptoms occur as a consequence of physical or psychological trauma, which can be acute or chronic, isolated or repeated, violent or minor, and/or directly or indirectly experienced. Currently, PTSD is identified by its psychiatric diagnostic criteria and TBI by its traumatic pathophysiology. Both can have affective and cognitive sequelae that can affect all aspects of the victims' lives.

What is now dispassionately called PTSD, has in our military history of the last century, been referred to as "shell shock," "neurasthenia," "battle fatigue," and "war neurosis."<sup>2</sup> It is only since the Vietnam era that the malady has been called PTSD. The term "soldier's heart" that emerged during the American Civil War is more poignantly expressive than the current sterile PTSD and TBI acronyms, in that it implies a rupture between a precombat psycho-social-spiritual balance and the postcombat state. It is this rupture

of pre- and post-trauma psychospiritual balance that mental health workers attempt to repair and bridge with their interventions, no one or combination of which has to date proven to be reliably and consistently effective.

Using the *Diagnostic and Statistical Manual of Mental Disorders—IV Edition* criteria,<sup>3</sup> conventional treatment protocols for PTSD have been developed, including serotonin-selective reuptake inhibitor medications<sup>4</sup> and other psychological treatments, such as thought field therapy,<sup>5</sup> trauma film observations,<sup>6</sup> image rehearsal therapy,<sup>7</sup> cognitive-behavioral therapy, eye movement desensitization and stress-management techniques.<sup>8,9</sup> These treatments focus on changing the intrusive memories through desensitization and cognitive restructuring techniques, and changing the neurochemistry through neural reprocessing.<sup>10</sup> A recent Veterans Administration publication presents serious evaluations of complementary and alternative medicine (CAM) approaches for PTSD intervention, citing the good quality of early empirical evidence for acupuncture's clinical value.<sup>11</sup>

If PTSD is thought of as an emotional, mental, and spiritual disorder that affects the physical body through a

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bidirectional psychosomatic information network, it is reasonable to consider that it may be amenable to a therapeutic modality such as acupuncture, which can address imbalances at these multiple levels. One randomized controlled pilot study demonstrated that patients treated using an acupuncture protocol derived from traditional Chinese diagnostic principles responded at least as well to acupuncture as to cognitive behavioral therapy,<sup>10</sup> and another randomized study showed that an acupuncture group had a significantly greater decrease in PTSD symptoms than the standard treatment control group.<sup>12</sup>

President Barack Obama, in his televised address on June 22, 2011, regarding troop withdrawal from Afghanistan, acknowledged the physical and psychological impact on military personnel: “We have learned anew the profound cost of war—a cost that has been paid by the...men and women who will not live to enjoy the freedom that they defended. Thousands more have been wounded. Some have lost limbs on the field of battle, and *others still battle the demons that have followed them home* [authors’ italics].”<sup>13</sup>

These demons are the seeds, fertilizer, and fruits of the trauma spectrum. The symptoms they produce are described in classical acupuncture terms as pathologies of Qi—objective disharmonies that generate physical and emotional symptoms simultaneously. In the acupuncture paradigm, resonant with the term “soldier’s heart,” all emotions affect the Heart, the vessel of Shen, spirit. Thus a Heart Shen disturbance participates in every case of PTSD and TBI, which manifest commonly as exhaustion of Heart Fire (concentration and memory problems, anxiety, depression, disturbed sleep).<sup>14</sup> Stagnant Liver Qi escalating into Liver Fire accounts for some of the most distressing symptoms (muscle tension, hypervigilance, irritability, and outbursts of rage), and both the Heart and Liver disturbances are coupled with Kidney Yin and Yang depletion (fatigue, fear, and helplessness).

## RATIONALE

The Helms Medical Institute (HMI) Auricular Trauma Protocol (ATP) draws on the known impact of stress and trauma on intracranial structures, and addresses auricular correlates to modify their malfunctioning. Furthermore, this protocol embraces the value of potent master points in the discipline of auricular acupuncture to reinforce and expand the impact of the anatomical input. Auricular acupuncture can be used to treat functional, organ, somatic, psychosomatic, and psychoemotional disorders, including stress-related conditions, sleep disturbances, and organic brain conditions that may occur in PTSD and mTBI.<sup>15</sup>

The trauma spectrum involves a disorder in the relationship of the prefrontal cortex and orbitofrontal cortex with respect to the amygdala and hippocampus.<sup>16</sup> The frontal cortices are hypoactive, while the amygdala is hy-

peractive. The amygdala, the site of fear conditioning and the relevance detector, is not downregulated adequately. The signal extinction capacity is deficient. This leads to excessive output from the central nucleus of the amygdala to the hypothalamus. From there, the sympathetic nervous system, the hypothalamic–pituitary–adrenal (HPA) axis, the sympathetic adrenal medullary axis (SAM), and the locus coeruleus (LC) are activated. The hippocampus, which is assaulted by excitatory neurotransmitter inputs, actually shows shrinkage and neuronal death. The locus coeruleus (LC) maintains a high central adrenergic tone, which is associated with attention, concentration, and hypervigilance.

The amygdala, hippocampus, and prefrontal cortex provide negative feedback to the HPA axis. The amygdala and hippocampus are part of the behavioral inhibition system that helps establish a defensive distance for an individual. The hippocampus is involved in the functioning of memory, integration of affect, and synaptic plasticity. Each of these functions is modulated by the presence of stress hormones. In particular, glucocorticoids (GCs) and mineralocorticoids (MCs) are important. Too little or too much glucocorticoid activity affects hippocampal functions adversely. In PTSD, there is too much of a GC effect on the glucocorticoid receptors (GRs) in the hippocampus. In excess, they overwhelm and impair hippocampal function. Patients may find that their traumatic experiences are not well-locked in space and time. The excess GC activity increases lymphocyte activity, enhances cortisol suppression (sensitization), and ultimately contributes to hippocampal atrophy as a result of neuronal loss.<sup>17,18</sup>

The hippocampus is one of the few areas where neurogenesis continues to occur in the adult brain. In PTSD, the excess of stress hormones impairs this neurogenesis. Furthermore, this excess of stress hormones creates structural changes in Ammon’s horn (CA3 neurons), a modulation of intrinsic neuronal excitability, and an alteration in activity-independent synaptic plasticity. This affects the individual’s capacity to learn. There appears to be a hypersensitive, hyperresponsive HPA axis. Markers include elevated corticotropin-releasing hormone (CRH) and norepinephrine (NE) as well as depressed adrenocorticotrophic hormone (ACTH) and cortisol. This elevated level of CRH can be suppressed by dexamethasone, unlike what occurs in depression.

## Treatment Method

Auricular correspondences of the intracranial structures are zones, not points, located identically on all patients. The somatotopic reflex zones for the three affected structures are best located by using a probe or an electrical point detector to identify the most reactive spot on each patient. The same technique for precise, specific location is recommended for the three master points in the protocol. The best way to locate and needle the points is in the following

order: (1) hypothalamus; (2) amygdala; (3) hippocampus; (4) Master Cerebral; (5) Point Zero; and (6) Shen Men.

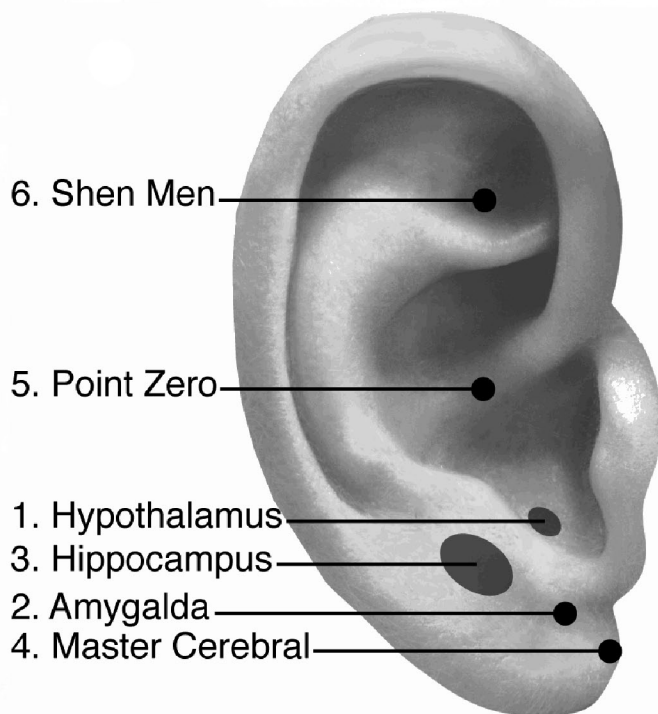
Regular ear needles or semi-permanent indwelling needles may be inserted into the ATP points that are found to be active upon scanning. Needles are left in place for 30–120 minutes. After removing the needles, ear beads or seeds may be put in these same locations for additional stimulation. Semi-permanent indwelling needles will remain in the ear for several days, producing a longer impact. The choice of needle used depends on the individual patient and circumstances of the treatment.

### The Points

- *Hypothalamus*—This structure stimulates the parasympathetic functions of calming, centering, focusing, decision-making, and anxiety control. The hypothalamus triggers the HPA axis and is important for attention, vigilance, and arousal. The hypothalamus zone is located on the floor of the inferior concha medial to the intertragic notch (Fig. 1).
- *Amygdala*—This structure modulates the expression of irritability, anger, fear, and aggression. The amygdala zone is located just inferior and slightly posterior to the intertragic notch, on the fleshy part of the lobe, not overlying any cartilage.

- *Hippocampus*—This structure influences memory encoding and retention of emotional experiences. It is important for memory and concentration. The hippocampus zone is larger than those of the first two structures. It is located just inferior to the cartilage of the antitragus, on the fleshy part of the lower ear.
- *Master Cerebral*—This master point is influential in psychoemotional and psychosomatic disorders, emotions accompanying chronic pain, and pain itself. Master Cerebral is found on the anterior aspect of the lobe, where it is attached to the face. The reflex zones for the limbic system (memory, emotions, compulsive behavior) and prefrontal cortex (concentration, decision making, initiating action) are located in the Master Cerebral area. These reflex zones are on or near the Master Cerebral point.
- *Point Zero*—This and the next master point are the two strongest auricular points. Point Zero moves the mind, emotions, and body toward homeostatic balance. Point Zero is located in the center of the ear where the helix root transforms into the interconchal ridge, in a notch felt with the fingernail sliding posteriorly.
- *Shen Men*—This master point, called “spirit gate,” enlivens the psychospiritual vitality of the patient. The point calms or activates Heart Fire—whichever is necessary—and is used to alleviate pain and anxiety, depression, insomnia, hypersensitivity to needles, and stressful states. Shen Men is located near the apex of the triangular fossa.

### Auricular Trauma Protocol (ATP)



**FIG. 1.** Auricular Trauma Protocol points. Numbers indicate order in which the protocol is applied.

### RESULTS OF THREE CASES

#### Case Reports

This section covers 3 cases using ATP in clinical settings and includes two civilian patients and one ex-military patient. Following these cases are observational reports on using ATP at a base camp in an active war theater.

*Case 1.* A 58-year-old contractor inflicted flesh, nerve, and bone damage to his own left second and third fingers with a Skil Saw. He was using the tool while he was angry with a client for forcing him to do a task he thought was unnecessary. He presented 2 weeks after extensive microsurgery, requesting acupuncture assistance for pain and circulation issues. While telling his story his voice cracked and eyes teared with the active and recalled emotion he felt concerning his carelessness in using the saw while he was so angry. He was treated with local acupuncture on the extremity, to which was added ATP with semi-permanent indwelling needles on the left ear. (Interestingly, the anatomical correspondence points for the forearm, hand, and digits were minimally reactive with the point detector, whereas all the ATP points were very

reactive.) At follow-up 3 days later, he was pleased that his pain had almost completely disappeared, the color and texture of his digits had improved, and the swelling had resolved. His greatest surprise and joy came from feeling “like a great weight had been lifted” from his chest. He realized the day after the treatment that he was no longer angry with himself or his client, an anger he had carried since starting the unwanted task. He said he could now think about the incident in a calm and objective way. He reported sleeping better than since the injury, and that he was no longer irritable with his wife and work crew. These changes endured throughout the resolution of his healing.

*Case 2.* A 33-year-old Marine medically retired seven years ago for crush injuries to both wrists from landing on outstretched arms after being catapulted from an armored vehicle when it plunged into a crater created by an improvised explosive device (IED). In addition to the pain and restriction in movement from the damaged bones, metal plates, and surgical scars, he stated with a flat affect that his “give-a-shit meter” was at zero, that most days he just did not care about what happened next in his life. In addition to initiating local treatment on the damaged extremities at the first session, he was treated with ATP bilaterally using indwelling semi-permanent needles. At his follow-up interview the next day, he reported that he slept for 7 consecutive hours the night after the treatment, which was the longest sleep he had experienced since the injury. He also said that his meter had jumped to six or seven, and that he was looking forward to what the next 6 months would bring: “The sun has come out.” With weekly treatments, this patient’s mechanical problems progressively reduced, and the regular ATP treatments “kept the sun shining” in his psyche.

*Case 3.* A 48 year-old physician-patient who was struggling with a diagnosis of an intracranial tumor and the recommended surgery, which was, itself, potentially life-changing, wrote these insightful paragraphs following an hour-long unilateral ATP treatment with 30-mm disposable needles:

It’s not that there is a denial of the tumor’s existence, or the trauma of the surgery, or the negative feelings. It’s more like a compartmentalization of the Self. I can’t put this event in a box on the shelf and go on normally with the rest of my life. There is now a part of my mindscape that is OFF LIMITS. There is a big sign on the terrain that warns me about going there and the moment I even get near it, the anxiety starts. And so that is land I cannot explore for fear of reliving the event or having the same amount of gut wrenching suck that came with the initial diagnosis. So I am compartmentalized, not the event. It’s free to be out there; I have just withheld myself from its domain. Which I don’t like because it’s my land and I can’t hike there. Like something else has ownership over what I claimed before as my own.

The ATP changed that. That zone is still out there. I know it, but I can go there if I want. There’s less anxiety about bumping up against it. There are still parts that I do not wish to see, but it has less power over me. And it happened without playing it back to me. I knew something was cooking while the needles were in place and after, but I couldn’t say what. It’s like the force field that I created to keep me out of that area was turned off. But more than that, because the need to have the force field there also went away.

I pushed myself to acknowledge the trauma during the ear treatment in order to see the effect it had on me. I had to feel the anxiety around the trauma initially so I could look at it after. I don’t know if that is necessary for everyone, but I know it has helped me to assess the effectiveness of the treatment, which was dramatic and profoundly calming.”

*Observational Report.* Navy providers at the Concussion Restoration Care Center in Afghanistan have used the ATP for symptomatic treatment of mTBI. Although formal studies are not concluded or evaluated at this writing, anecdotally, the current authors observed a decrease in headaches, a greater sense of calm and focus, and better sleep than prior to treatment in the postconcussion population.

## DISCUSSION

No isolated conventional or complementary approach is adequate for resolving the broad presentation of trauma spectrum. The HMI ATP presented here is not an exception. Trauma spectrum management is—and for some time will be—a work in progress. The authors propose, however, that the ATP can serve as an initial and ongoing treatment for all affected individuals. It is presented with a sound theoretical rationale for effectiveness, and its initial empirical evidence is encouraging.

In a military population, where physicians are likely to be working in urgent and time-constrained environments, the ATP can provide a safe and rapid intervention as an initial or ongoing treatment for the stress issues commonly seen as primary or comorbid symptoms. It can be used as an exclusive treatment or as an adjunct to acupuncture or medical interventions. The ATP is minimally invasive, has a low side-effect profile, and appears to be effective for addressing many conditions. Even in rapid-treatment circumstances, the ATP can be augmented and specified for the most important complaints by needling, for example, auricular points for anxiety, memory/concentration, insomnia, or depression. Furthermore, because many veteran service members have lifestyles that involve substance abuse, the combination of the ATP and the National Acupuncture Detoxification Association (NADA) protocol offers a potential for a broader spectrum response than either protocol alone.

## CONCLUSIONS

Based on their clinical experience and reports from civilian and military physicians using the protocol, the authors conclude that the ATP can be used effectively as the sole initial treatment in patients who have either acute or chronic stress and pain. The ATP is useful as a complementary treatment concurrent with centering and calming body acupuncture treatments, or with musculoskeletal pain treatments using body points alone or a combination of body and auricular points, such as Battlefield Acupuncture on the opposite ear. The ATP combines well with needle treatments aimed specifically at modifying distressing psychospiritual conditions. As with most acupuncture approaches, it combines well with and reinforces other conventional interventions, whether they be psychological, behavioral, or pharmaceutical.

The initial anecdotal reports of this technique strongly suggest that ATP is a safe and useful intervention for addressing many of the manifestations of trauma spectrum. These initial results encourage widespread clinical application along with formal evaluation of the ATP's clinical impact.

## DISCLOSURE STATEMENT

No financial conflict exists.

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