

## **A Perspective of Pain Management Related to Trauma**

**By Sonia Gomes, Senior SE Faculty Member - 2009**

Pain is an experience all humans face. For our own protection and survival, the body registers and transmits to the brain the sensations of warmth, cold, touch, pressure and PAIN. If the sensation is quick and intense, we normally take a painkiller to tolerate it as we search for the root cause of the problem. In the case of actual tissue damage, pain is the signal that informs our body that something is wrong, and the informant for all following body reactions.

One of the greatest difficulties in the medical sciences is the treatment of chronic pain—or pain that persists for an extended period of time. In the case of this type of pain, the sensory information travels to the brain and follows two different types of neurons, reaching the brain at a slower pace than acute pain. Chronic pain not only moves along a distinct path, but it triggers different mechanisms and chemical elements than acute pain (Melzack, 1965). These control mechanisms are complex and can modulate pain responses, sometimes intensifying the sensation or making it more tolerable.

Chronic pain is quite common, affecting four out of ten people in the world. Fifty percent of those with chronic pain consider it to be a detriment to their daily activities, significantly affecting their quality of life. Yeng, (2006) postulates that pain is the principal cause of the physical inability to work. Less than fifty per cent of people who get medical license due to algesia clinical features return to work after a license period of six months and there is practically no return to work for those people after a period greater than two years.

Teixeira (2005) affirms that those with chronic pain do not respond to conventional pain-killers, and that the great majority of reported cases are vertebral or back related. Also included are: cephalalgia, tendinitis, Fibromyalgia Syndrome,

Myofascial Pain Syndromes, neuropathy, Complex Regional Pain Syndrome (Reflex Sympathetic Dystrophy), arthritis, Repetitive Strain Injury and cancer.

According to the World Health Organization (WHO), good health and quality life of human being is conditioned by absence of pain (Morgulis, 2006).

However, the nature of chronic pain as a specific entity remains obscure.

The word 'multi-dimensionality', popularized in the field of modern neurophysiology, has become increasingly common in discussions about pain. As a word that brings a subjective and psychogenic element to the table, it has allowed for a more open dialogue between non-conventional treatment practices, speaking to the complexity of pain outside of the traditional medical paradigm. It continues, therefore, to challenge conventional views and open the field to new areas of knowledge.

In this new atmosphere of thought, I propose to look at a novel practice—a fresh way to approach the problem for professionals who work with chronic pain and several other syndromes. This new approach is, SE – Somatic Experiencing®<sup>1</sup> developed by Peter A. Levine, PhD.

Since 1978, I have worked as a clinical psychologist, actively participating in the field of pain in public hospitals, as advanced body therapist by Structural and Movement Rolfing Methodology, as an international practitioner and faculty member of Somatic Experiencing® by the Foundation for Human Enrichment.

Most of us have experienced some kind of traumatic event in our lives. From the suffering of a fetus, a car accident, a fall, a disease, a neurotic or disturbing relationship, to a robbery, kidnapping, natural disaster, or divorce, the possibility of suffering a psychological or physical trauma has increased with modern life.

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1. This therapeutical practice, Somatic Experiencing® developed by Peter A. Levine (1977, 1996), is constructed around a naturalistic understanding of trauma. It is a neuro-ethological, model that, through studies and observations in human beings and animals, argues, that traumatic stress symptoms are frequently signals or indications of incomplete neurophysiologic of fight, escape or freezing, primarily physiological process, autonomic, initiated and commanded by primitive cerebral structures. Visit our site: [www.traumahealing.com](http://www.traumahealing.com) by Foundation for Human Enrichment – Co – Usa.

Just as the traumatic events in our lives have diversified, so too have the many emotions and feelings we experience.

How many strategies do we formulate in order to express our thoughts (using the neocortex part of the brain) and our emotions (using the limbic system)? How much physical energy do we mobilize? How much energy is lost in the end? In addition, if we do not rid ourselves of this instinctive energy (reptilian – primitive part of the brain), the functioning of the other brain systems will be profoundly changed, affirms Levine in his book “Waking the tiger”.

He emphasizes that without discharging or putting closure on our actions, we are doomed to repeat them in the tragic cycle of acting - no matter if this occurs “acting towards the inside” or “acting towards the outside”. The first type is related to oneself and often leads to sickness or poor health. The second type is related to the environment and leads to aggressive and violent behavior.

Levine defines ‘re-acting’ as a pattern that occurs in order to solve trauma and affirms that we are attracted to situations in which original trauma is repeated in obvious and non-obvious ways. Freud coined the term “repetition compulsion” to describe the behaviors, relationships, emotions and dreams that seem to be “replays” of our original traumas (Van der Kolk (1989).

Twisted ankles, disjoined knees, backbone accidents, intimacy problems, and psychosomatic disease, are some random examples of re-actuations.

One of the aspects that calls our attention to a patient with chronic pain and patients that have undergone severe trauma – especially prenatal or traumas of strong interference in Central Nervous System – are symptoms that arise with few visible signs. Childbirth trauma, childhood surgery, high fevers, asphyxiation, choking and drowning are experiences that permeate all physiological levels. The organism as a whole dislocates itself in order to maintain survival; which means the

organism responds universally to each stimulus. We constantly observe patients who are over sensitive to the environment, and overact to certain noises, odors, and other stimuli.

We speculate that this severe type of dysregulation also leads to a certain predisposition to the development of pain syndromes.

Since I began to understand the nature of trauma and the gravity of its repercussion on the human body, I felt it necessary to transmit the ideas of Dr. Peter Levine, founder of the Somatic Experiencing® methodology. For him, trauma may be the basis of many functional disorders and may contribute to the perpetuation of the symptoms of chronic pain.

There is a large body of literature on trauma that documents the high frequency of chronic pain found in victims of child abuse (Wurtele,1990). Studies show that gastrointestinal disorders affect 12% of adults, mostly women, especially Irritable Intestine Syndrome, in which the sensitivity of the nervous system is altered due to stress. (Drossman and others, 1993; Drossman and others, 1994). Whitehead and others, 2000 says Irritable Intestine Syndrome is related to pre-natal trauma. As the baby is not mature enough to deal with intestinal injuries, the trauma may dysregulate the axis between the intestine and the brain.

The consequences of trauma may disperse or be hidden. Studies show that psycho-social stress seems to provoke symptoms (Drosman and others, 1994) which can stay latent and hidden for years or even decades.

The circumstantial evidence of these studies does not constitute scientific evidence; however, it does offer a kind of prototype for modeling diseases of autonomic dysfunctions.

When pain does not originate from any specific physical injury, the cause may be attributed to an unbalance of the nervous center that controls pain, a nerve variation, or nerve damage. In these cases, the pain may be considered a proper illness. (Scarlati, 2007).

The patient with chronic pain loses the capacity to defend him/herself and to respond to the pain stimulus. This uncontrolled happens by the neuronal hyperactivity in the inhibitory descending system that regulates the information of pain. This effect is due to inadequate physiological response which the body loses function of modulate the pain (Melzack). In the mechanism of pain, a number of changes occur and all of the hyperactivation (hyperalgesia – painful stimulus, sensations) and messages of danger, go to the memory. This is how the mechanism of pain guards dangerous messages in the memory. As in the mechanism of trauma. In the unconscious mind, memory of trauma is stored in packets of sensations, perceptions, noises, odors, images and somatic stimuli, which may awaken with the slightest environmental catalyst or association (Scaer, 2001).

For Levine, trauma is a self-regulated disorder and can be healed. He considers trauma an interruptible process that has the natural inclination to complete itself when possible. If an opportunity is created, any person can complete this process, and avoid trauma-weakening effects. He affirms that when we are incapable of actively defending ourselves through fight or flight, we discharge and stock a tremendous amount of emotional energy into specific neuromuscular patterns. In a freeze response, there is an intrinsic disassociation (Gallup & Maser, 1977). The freeze muscles remain steady, or collapse because a lack of tonus. In these situations, the muscles do not have enough charge to move and, at the same time, a strong automatic activity occurs continuously.

Life threatening events followed by additional stress may lead a person in constricted and inhibited states of high sympathetic and parasympathetic charges that “lock” the system.<sup>2</sup> Then, the two systems are co-activated.

When experiencing a severe traumatic event, individuals overcharge the nervous system to a point that may trigger this alarm process and suspend its activities (Gallup & Maser, 1977). This hyper-activation promotes an irresistible impulse to identify the source of the threat, due to sensory-motor orienting reactions (Scaer, 2001). Earthquakes are a common example of this, as the original movement of the event is so intense that it is not possible to identify where it is coming from. Another example is a car accident, in which the fight or flight response becomes conflicted. The effect is similar to using both the accelerator and the breaks at the same time. As in Irritable bowel syndrome (and in some cases of Fibromyalgia Syndrome), in which there is a combination of the related symptoms – one period of spasm followed by another one of diarrhea, or in migraines in which the vasoconstrictions are followed by vasodilatation, it reflects an instability in the self-regulatory system (Levine, 2006).

With the result of the trauma, the person loses the ability to act spontaneously and instead performs automatically. We call this dissociation.

It is difficult for the Autonomic Nervous System to get out of this ‘lock’ and to return to the state of dynamic equilibrium. We help our clients to re-start the ANS responses and to respond actively using social engagement strategies (Polyvagal theory of Porges)<sup>3 4</sup>, fight and flight; so the client may restore his/her limits, manage their sensations with much more awareness, and integrate his/her inner experiences with the environment.

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2- The polyvagal theory of Porges, clarifies some of the eccentric physiological responses particularly under conditions of chronic management of traumatic stress states. According to Porges’s theory, the autonomic nervous system is actually not comprised of two reciprocal systems (parasympathetic and sympathetic), but rather of three sequential systems that follow brain evolution: Dorsal Vagal System (DV) – Sympathetic Nervous System (SNS) & Ventral Vagal System(VV).

**DV:** part of the Parasympathetic Nervous System, the most primitive of the ANS branches and unmyelinated. This ancient system is an oxygenconservation system and causes the shutdown(freeze) seen in severe trauma.

**SNS:** the SNS is primarily a system of mobilization (fight/flight), language of survival through action, Unmyelinated and takes a lot of metabolic energy.

**VV:** Found only in mammals, this newer system supports engagement (“facial linking & make friends to solve problems”).

In a therapeutic intervention – physiotherapeutic, psychotherapeutic, accupunturistic, or even while a nurse performs their job – as discharge response starts to liberate, the patients may experience scary and uncontrollable flashbacks, strong messages of danger, or unpleasant sensations that are followed by ‘negative’ emotions, such as terror, anger, hate, shame or blame. All of which remain equally intolerable (Scaer, 2001).

In these cases, if an excessive quantity of emotion is liberated quickly, the nervous system will again try to stabilize itself, holding this emotion and perpetuating the cycle and the symptoms. Any approach that suddenly frees a great quantity of emotion into the system is likely to “re-traumatize” a patient’s physiology, leading them, in some cases, to symptom aggravation.

It is within this framework that the Somatic Experiencing was developed. It helps patients to uncouple or separate from the highly charged stimulus (pain, touch, emotion, erroneous beliefs, images, sensations, etc.). Somatic Experiencing® also helps patients to exercise the ability to respond and stop, respond again and stop once more, as in homeopathy’s principle. In this regard, the patient begins to perceive the warning signs that his/her system is starting to move forward towards habitual patterns of the pain syndrome, such as migraines, pain, fatigue or other dysfunctions (Levine).

The primary task of a SEP\*, is to give attention to sensations that are evoked and to the way the body is responding to them. The opportunity of giving small responses relies on sensations.

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3 – Porges’s theory proposes a hierarchical response model, in which the more sophisticated strategies of survival that use social engagement doesn’t work, then the more primitive sympathetic arousal system (fight or flight) is engaged. If sympathetic arousal doesn’t work, then we see the immobility response of the primitive dorsal vagal system as the end-stage survival mechanism. However, even this sequential model has its own complexity: “ *The three levels do not function in an all-or-none fashion; rather they exhibit gradations of control determined by both visceral feedback and higher brain structures.*” – Porges, “Emotion: An Evolutionary By-Product of the Neural Regulation of the Autonomic Nervous System”, from [www.wam.umd.edu](http://www.wam.umd.edu)

4 – “The (Polyvagal) Theory emphasizes the phylogenetic dependence of the structure and function of the vagus, the primary nerve of the parasympathetic nervous system. Three phylogenetic stages of neural development are described. The first stage is characterized by a primitive unmyelinated vegetative vagal system that fosters digestion and responds to novelty or threat by reducing cardiac output to protect metabolic resources. Behaviorally, this first stage is characterized by a spinal sympathetic nervous system that is capable of increasing metabolic output and inhibiting the primitive behaviors necessary for “fight or flight.”. The third stage is unique to mammals and is characterized by a myelinated vagal system that can rapidly regulate cardiac output to foster engagement and disengagement with the environment...In addition, the mammalian vagal system has an inhibitory effect on sympathetic pathways to the heart, and thus, promotes calm behavior and pro-social behavior.” Porges, “Emotion: An Evolutionary By-Product of the Neural Regulation of the Autonomic Nervous System”, from [www.wam.umd.edu](http://www.wam.umd.edu)

When we are in contact with our inner sensations, we are giving attention to the impulses from our reptilian brain. Adequate use of touch may give back the natural breath and rhythm to the tissues and liberate more subtle micro-tensions and, as a result, the patient will notice the proper way to discharge excessive energy and complete the feelings and stocked responses. Observing and not interpreting these changes and responses, helps in the learning process, of moving away from stress, and by helping to re-connect the client with the perception that they belong to him or herself. The disconnection of self allows our rational mind to create fantasies that lead us to compete, to not trust others, and to sabotage our natural respect for life.

As Van Der Kolk says, “trauma is fundamentally disturbing in its capacity to exist here and now”.

When a client starts to enter the trauma vortex and to sink into his familiar speech and dissociation, an adequate way to intervene would be the following: Make him/her look at you and bring him/her back through orientation. Touch his/her arm and say, “Look at me. Open your eyes”. Even if your client has a small capacity of experience the here and now you are asking him/her to use the NOW.

A patient that stays in the sensation mode without being involved in his/her own process of thoughts feels relief and openness; his/her attention is then focused again on the external world. You can see something changing in the patient. For a patient that arrives scared by the received diagnostic, after being running from one doctor to another, a simple hand on his/her shoulder is extremely comforting. Other words of reassurance can also help greatly such as, “It’s alright”; “Everything is going to be alright. Let the scary go out with the trembling.



Studies show that the ones who have this opportunity have a better chance at recovery. Your primary function as therapist is to create a safe environment for the patient to allow his/her natural response to the fact he has been hurt. <sup>5</sup>

It is essential that a patient with pain look for help in order to put an end to it. The most reliable way to treat chronic pain is through an inter-disciplinary approach, and the Somatic Experiencing model serves in this respect. When pain is not treated, it brings a host of immunological and cardiovascular aggravations, ultimately changing the quality of life( Teixeira, 2005).

People that are encouraged to pay attention to their instinctive responses are much more likely to achieve a life and legacy full of health and vigor.

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5- Porges developed a concept of "neuroception". He describes as a innate process of how we glean from the nervous system whether things (people, situations) are safe, dangerous, or life-threatening, and whether something is approachable or needs to be avoided. He affirms that the neural evaluation of risk does not require conscious awareness, the term neuroception is introduced to emphasize the neural circuits that function as a safety-or-threat detection system that distinguishes whether situations are safe, dangerous, or life-threatening. Porges says that the polyvagal theory gives a perspective to structure researches and that his theory must be validated and has to be discussed on the context of psychophysiological history.

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