

## **Alternative Treatments for Traumatic Stress**

Over the past 30 years, our understanding of how traumatic stress impacts the brain and nervous system has expanded dramatically. In particular, there has been an explosion of research on the neurobiology of trauma. This research has changed the way that we think about trauma treatment. In recent years, there has been a proliferation of alternative treatments for traumatic stress that seek to address the impact of trauma on the nervous system in a new way. These alternative treatments provide an important supplement to traditional talk therapy in the treatment of trauma.

**What causes trauma?** Traumatic stress is any event or series of events that overwhelms the nervous system's ability to cope. Traumas can be acute, such as a car accident, terrorist attack or fall. They can also be chronic, such as child abuse or exposure to war or community violence. Trauma can come from direct exposure to an event, or from hearing about an event. A wide range of events can have a traumatic impact and not all people who are exposed to a potentially traumatic event become traumatized. Chronic stressors, such as poverty, racism and inadequate early caregiving can also impact how the nervous system manages and responds to stress.

**What does a trauma response look like?** A traumatic reaction can include nightmares or intrusive images of the traumatic event, intense reactions to reminders of the event, avoidance of reminders and an exaggerated startle response. It can also include more general mood disruption, such as feeling agitated or angry and having difficulty relaxing or feeling lethargic, numb and/or disconnected. People who have been traumatized can feel that they are responsible for the difficult things that have happened to them or that they cannot be safe in the world.

**How does trauma impact the brain?** Recent neuroscience research has expanded our understanding of how trauma impacts the brain. Traumatic experiences disrupt the parts of the brain that control the body's response to danger, such as the amygdala, thalamus and brainstem. These brain regions allow a person to react quickly and automatically to a threat by preparing the nervous system to fight (increasing energy in the body to confront a threat head on), flee (increasing energy in limbs to run away from danger) or freeze (reducing energy and awareness in the body, so that a person is less present to the pain of a difficult experience). When people are experiencing a fight/flight/freeze response, they have less access to the parts of the brain that are responsible for thinking, reasoning and speaking.

People who have experienced traumas can have an overactive or under-active danger response system, so that either their bodies respond to minor stressors with a full-blown danger response or they have difficulty recognizing and responding to danger. They struggle to regulate their bodies and nervous systems when faced with psychological stress.

This new information raises questions about some of the limits of talk therapy in the treatment of trauma. Traditional talk therapy is primarily designed to target the parts of the brain that are responsible for talking, reasoning and making meaning. Talk therapy can be very important for people who have experienced trauma, but some trauma experts believe that it does not directly impact the parts of the brain that control the disrupted fight/flight/freeze response and cannot fundamentally change the way that a traumatized brain responds to danger.

### **Alternative treatments**

Over the past several years, there has been an increase in the popularity of alternative and supplemental treatments for trauma. These treatments purport to address more directly the ways that the brain's danger response system is impacted by trauma. They are designed to help the lower brain structures, such as the amygdala, relax and respond more adaptively to stress. These alternative treatments include:

- **Heart-Rate Variability Biofeedback** is a deep-breathing based intervention that teaches people to regulate their bodies and nervous systems, leading to improved mood and increased relaxation.
- **Neurofeedback** is a form of biofeedback that focuses on "training the brain" to reduce the physiological responses that underlie reactions to trauma and stress. Neurofeedback has been shown to increase alertness and concentration, stress tolerance, focus, and relaxation, and reduce anxiety, mood, and sleep problems.
- **Eye Movement Desensitization & Reprocessing** is a well-established treatment approach for recovery from trauma and psychological stress. Sessions focusing on Resource Development build internal resources so that people can manage stress, triggers, difficult emotions, and challenging situations in a more resilient, empowered manner.
- **Progressive Muscle Relaxation** involves sequentially tensing and relaxing muscles throughout the body while engaging in visualization, resulting in reduced anxiety and a deep state of mental and physical relaxation.
- **Somatic Experiencing & Sensorimotor Psychotherapy** are body-based psychotherapy methods designed to help clients tune into body sensations and movement impulses to release "stuck" fight/flight/freeze responses in the body and support the nervous system in returning to its natural state of regulation.

Through the Resiliency Center, the Trauma Center at Justice Resource offers a variety of free, wellness-based behavioral health services to Boston Marathon bombing survivors and their loved ones. These services are designed to improve mood and daily functioning, increase the capacity to manage stress, and enhance overall resilience and well-being. All services are offered onsite at the Resiliency Center except for neurofeedback, which is offered at the Brookline location of the Trauma Center. For further, please contact the Resiliency Center's Navigators by calling 1-844-STRONG1. Additional information about the Trauma Center's approach and comprehensive clinical services may also be found at <http://www.traumacenter.org/>.