

# Brain Injury and Trauma:

## *What the Age of the Brain is Teaching Us*

Veronique Mead, MD, MA Somatic Psychotherapy  
Trauma therapy  
Research

*Brain Defenses*  
*Fight, Flight and Freeze*  
*Triggers*  
*Treatment*  
*Books on Traumatic Stress*

## Traumatic Stress

Traumatic stress can occur following an event that has been perceived as life-threatening and inescapable, which elicits strong survival responses and is imprinted in the brain as an unconscious memory. Interestingly, the symptoms of traumatic stress can look very similar to the symptoms of a traumatic brain injury even though no direct injury to the head needs to occur for symptoms to arise.

## Brain Defense Mechanisms

The nervous system has well-established mechanisms for maximizing survival. These defenses include “Fight, Flight, and Freeze”, which are natural emotional and physical responses to the perception of danger. If we freeze, have not time or opportunity to react and “escape”, the nervous system never gets the signal that the danger of threat has passed. Defense mechanisms may then continue to warn us of potential danger as if it were just around the corner. Symptoms of persistent fight, flight, or freeze states can result and lead to symptoms.

### Fight or Flight

- Confusion, foggy thinking
- High vigilance and startle
- Sensitivity (sound, light, noise)
- Anxiety
- Difficulty sleeping / digesting
- Increases in blood pressure
- heart rate, blood sugar

### Freeze

- Confusion, foggy thinking
- Depression
- Fatigue
- Weight gain
- Immobility / Invisibility  
(the urge to stay home under the covers)

## Triggers

Triggers are cues related to the context of a traumatic event and are stored in memory in order to maximize our chances of quick responses in the event of another similar experience.

**Triggers can include:** time, place, anniversary dates of the event; sights, sounds, smells; internal body cues such as increased heart rate with exercise (this can trigger fight or flight, which is also associated with high heart rate); relaxing when going to sleep, which can trigger sense of lack of safety or fear one won't be ready; etc...

### Fight, Flight and Freeze

*are common  
systems of  
defense in the  
animal kingdom*

## Brain Injury and Trauma

### *What the Age of the Brain is Teaching Us*

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### **Veronique Mead, MD, MA**

Boulder, CO

PHONE:  
(303) 527-0551

FAX:  
(253) 679-5229

E-MAIL:  
info@veroniquemead.com

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*For more information visit:*

**www.veroniquemead.com**

## Treatment

**For Yourself:** Although the challenges of trauma can be life-changing, our bodies are designed to recover and to move through challenging experiences. While traumatic brain injury may involve changes in the brain that do not respond to trauma therapy, some of the following may be helpful in working with symptoms or learning how to cope with symptoms. Working alone is often daunting and most of us find that trauma therapy is more effective with the help of a skilled practitioner.

- ❖ A sense of safety is often missing after a traumatic event; take some quiet time to be with someone you feel safe with, or recall a time or place where you felt safe, or a situation in which there were no threats. Notice what happens in your body and with your thoughts as you “go there”.
- ❖ Traumatic stress leaves our nervous systems believing that we are stuck in the past, and can make us fearful of the future. Find activities that help you come into the present moment, which is an antidote to trauma: meditation, tracking sensation in the body (warmth, tingling, heart beat); nature (watch the ant go about it’s routine; hear the gentle breeze shift the leaves in a tree).
- ❖ Resources are people, places, or things that help us feel comforted, supported, or safe: loved ones, creative outlets, meditation, exercise;

**Approaches:** Many approaches for working with the emotional and physiological effects of traumatic stress have been developed. Many of these tend to work from the perspective that mind, brain, and body interact with one another. One way of finding out if any of the symptoms of traumatic brain injury are due, in any part, to brain defense responses from traumatic stress is to try one of these approaches:

- Somatic Experiencing (“SE”), developed by Peter Levine, Ph.D
  - [www.traumahealing.com](http://www.traumahealing.com)
- Sensorimotor Processing, similar to SE, by Pat Ogden, Ph.D
  - [www.sensorimotorpsychotherapy.com](http://www.sensorimotorpsychotherapy.com)
- EMDR (Eye Movement Desensitization and Reprocessing), by Francine Shapiro [www.emdria.org](http://www.emdria.org) (therapist referral also)
- Emotional Freedom Technique (EFT) – many published studies, by Gary Craig [www.emofree.com](http://www.emofree.com)

## Books on Traumatic Stress

**Peter Levine** *Waking the Tiger*. Berkeley: North Atlantic Books, 1997.

**Peter Levine** *Healing Trauma: A Pioneering Program for Restoring the Wisdom of Your Body*. Boulder: Sounds True (comes with CD). 2005.

**Robert Scaer** *The Trauma Spectrum*. New York: W.W. Norton, 2005.

**Bessel van der Kolk et al, editors.** *Traumatic stress: the effects of overwhelming experience on mind, body, and society*. New York: Guilford, 1996.

**Diane Poole-Heller** *Crash course: a self-healing guide to auto accident trauma and recovery*. Berkeley: North Atlantic Books, 2001.

**Belleruth Naparstek** *Invisible heroes: Survivors of trauma and how they heal*. New York: Bantam, 2005.

**Veronique Mead** *Origins of chronic illness: The role of trauma*. Excerpt from article published in *Medical Hypotheses* vol 63(6) pp 1035-1046, 2004. **View or download from** [http://www.veroniquemead.com/library\\_trauma.php](http://www.veroniquemead.com/library_trauma.php).

## **Environmental Origins of Disease**

**Colorado Psychological  
Association**

**Spring Conference 2006**

### **Veronique Mead, MD, MA**

Boulder, CO

PHONE:  
(303) 527-0551

FAX:  
(253) 679-5229

E-MAIL:  
vmead@mindspring.com

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*For more information visit:*

**[www.veroniquemead.com](http://www.veroniquemead.com)**

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