

Post-Traumatic Stress Disorder & Adrenal Fatigue

R. J. Oenbrink DO

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The concept of PTSD has been around for years. In WW I it was known as “shell shock”. The latest name evolved after the Vietnam era with the US Military. This is widely believed to be a psychological/psychiatric problem. The relationship between our brains and our hormone or endocrine system has long been acknowledged and explored. We understand that the hypothalamus, at the base of the brain has intricate connections with the pituitary or “master gland” that coordinates the entire endocrine system of the body with numerous interconnections between the two.

Symptoms of PTSD include stress, anxiety, fear, flashbacks of traumatic event(s), nightmares, sensation of intense physical reactions to reminders of the event such as rapid heart rate, breathing, perspiration, nausea, muscle tension among others.

Low adrenal function is usually missed by common blood tests. A basic cortisol level is useful as is an ACTH stimulation test to determine if there is complete failure of adrenal function. The more subtle insufficiency of the adrenal glands requires different testing. Salivary testing of cortisol & DHEA levels can help uncover this condition. Salivary and urine testing gather information on agents that change frequently in their blood levels; pooled levels over time are provided. Low DHEA/Cortisol ratio can indicate a physiologic response to stress with shifting of the steroidogenic pathway away from DHEA and toward cortisol. High ratios reflect an abnormal physiological response to stress, creating more DHEA at the expense of less cortisol production¹.

Symptoms of low adrenal function include those of PTSD mentioned above but there are some additional symptoms and signs: craving salty & sweet foods, shakiness relieved by eating, moodiness, food sensitivities, allergies, recurrent infections, dizziness on sudden standing, low blood sugar, perhaps worse under times of stress, fatigue, decreased ability to think and memory, swollen ankles, often worse in the evenings, inability to tolerate thyroid replacement therapy, inability to lose weight with central truncal obesity².

Unfortunately, while we've made a lot of progress in dealing with PTSD, there are no good controlled studies dealing with adrenal fatigue (AF). There is also some skepticism among the medical community as to whether this syndrome even exists.

In 2008, \$33.8 billion dollars was spent on what is known as “complementary and alternative medicine”³. There are large segments of society that prefer to patronize health food stores to pharmacies. Please note that this money is spent “out of pocket”. These are not insurance claims! This money is spent for one crucial reason; IT WORKS!

Diet is very important when dealing with adrenal fatigue issues, it also can carry over to PTSD. So many folks start pumping caffeine, sugar & energy drinks due to their constant fatigue. These are actually counter-productive and lead to a vicious cycle of partial pick-up of energy followed by a crash requiring more frequent and larger dosing

with the stimulants which further stress the adrenals. Better dietary choices would include micronutrient rich foods to help support the adrenals: asparagus, avocado, cabbage, garlic, ginger, lean protein. Elimination of refined and processed sugars, especially high-fructose corn syrup, processed foods, damaged/trans fats, alcohol, caffeine and possibly gluten-the protein in most grains. Food sensitivities are another factor to take into consideration and avoid aggravation of these syndromes ⁴.

Regular aerobic exercise is another area that is important to keep in mind. It's also important to pace yourself in order to heal properly. Play is equally important to help the brain to recover.

Adequate rest and restful sleep are also important. Medications such as the SSRI class of antidepressants can help restore the brain to normal function and balance. Tricyclic antidepressants can help promote more restful sleep. Many medications provide secondary benefits other than what they were initially developed to do. Using them for these "other indications" is an "off-label" indication. Sometimes these medications seem to work better for the off-label indications than the original indication. These syndromes involve alterations of brain chemistry. Medications help to correct these imbalances of brain chemistry.

The brain chemistry is controlled by chemicals called neurotransmitters that normally flow from one nerve cell to another. There are a variety of these neurotransmitters; each has different effects depending on what part of the brain it is located and acting in. The neurotransmitters are synthesized from specific amino acids. There are ways to evaluate the urinary amino acid profile and alter it with supplements to have a feed-forward effect that will effect a re-balancing of brain chemistry ⁵. Once urinary amino acid imbalances are discovered, specific supplements can be taken to correct the imbalances with corresponding improvements in behavior and brain function.

Herbal therapies are also effective in dealing with the syndromes of AF and PTSD. Some of these agents act as "adaptogens"; agents that help the body to adapt and increase resiliency-the ability to bounce back after problems. Instead of overusing caffeine and concentrated sugars to get energy back, use of adaptogens help to heal the underlying problems while the body gets back in balance. They can also relieve the symptoms such as the excess fatigue which is a major symptom to overcome. Of course, high doses of caffeine etc will aggravate the sleep issues, anxiety and other problems found with these syndromes. Doses to be used will be marked on the packaging for each agent.

1. Astragalus root provides increases in energy and endurance while bolstering the immune system and weight regulation by improving sensitivity to insulin and other hormones. It also has anti-inflammatory effects.
2. Cordyceps is fungus and an anti-aging medicine. It modulates the immune system, lowers high blood sugar levels and supports energy levels.
3. Eleuthero (Siberian ginseng which isn't true ginseng of the genus Panax). This is a much gentler adaptogens that increases performance, concentration and endurance.

4. Rhodiola rosea is another adaptogens that protects the brain while providing more energy, increasing the ability to concentrate as well as natural anti-oxidant and anti-inflammatory effects.
5. Licorice root helps support adrenal function especially as it involves sodium and potassium balance and low blood pressure. BP should be monitored for patients on this medication ⁶
6. Sarsaparilla is a cortisol precursor.
7. Hyperuricum or St. John's Wort helps wound and nerve healing and increases serotonin activity which can have a calming effect.
8. Passiflora or Passion Flower has a nerve calming effect, it's useful for sedation and sleep promotion as well as relief of muscle spasms and general nervous tension ⁷.
9. Scutellaria (Skullcap) is a nerve tonic and sedative for relief of anxiety, neuralgia & insomnia. In China it's used for high blood pressure, headache and other conditions as well ⁸.
10. Humulus lupulus (Hops) are actually a member of the cannabis family and widely used to flavor beer. They sooth the stomach, stimulate appetite, promote sleep and mild sedation as they sooth nerves and also help relieve muscle spasm ⁹.
11. Valeriana (Valerian) promotes sleep and sedation as well as helps relieve muscle spasms ^{10, 11}.

Vitamin supplements are also essential to controlling these syndromes.

1. Vitamin C is a very necessary antioxidant and anti-inflammatory medication. While the FDA requirement is as low as 45 mg/d ¹² it's important to realize that human beings and guinea pigs are the only mammals that lack the enzyme to make our own vitamin C. A billy goat makes about 20,000 mg/d. Contrary to popular belief, vitamin C does not cause kidney stones. Our gut is actually a very good regulator of vitamin C; if we ingest more than we need, the stool is loosened and excess amounts are not absorbed. This concept is known as "bowel tolerance". When our requirements for vitamin C are high, as during acute illness, we're able to absorb more until we replete our stores, then the gut will again fail to absorb any excess amount ¹³.
2. B-complex vitamins are also important. Taking them twice a day (but not to late in the evening when they can cause insomnia) to help replete the bodies stores. Anybody who has been through major physiologic stress such as major surgery may recall the length of fatigue that can occur afterwards. Provision of the basic building blocks for energy production is important. Vitamin B3 (Niacin) which is important in cellular energy metabolism and a healthy nervous system ¹⁴. Concern about the "niacin flush" or red itchy skin should be minimized with the realization that this is a histamine mediated reaction. High doses of vitamin C provide antihistaminic effects that can prevent the niacin flush, typically a 2:1 Vitamin C: Niacin works well. B5 & B6 which is essential for the manufacture of proteins and neurotransmitters ¹⁵ are especially important

3. CoQ10 is another important energy producing aid to the body. Think of it as the “engine that burns fuel to make energy” in the mitochondria, the power plants of each individual cell—where everything happens.
4. Trace minerals including zinc are also important.
5. L-Tryptophan is a precursor to serotonin and an essential amino acid ¹⁶ that humans cannot synthesize—it must be supplied in our diet. Increasing the amount available for conversion can help enhance recovery of function.
6. Phosphatidyl serine can resensitize the hypothalamus & pituitary to restore the negative feedback loop.
7. Phosphatidyl choline is the predominant detergent agent in cell membranes. It is available in gel caps & IV formulations. It also helps restore healthy endothelium, the lining of blood vessels. It should be helpful for traumatic brain injury (TBI) as well.
8. Gamma Amino Butyric Acid (GABA) to relieve anxiety and aid sleep as tolerated.
9. Omega 3 fatty acids/fish oils, 2 grams twice daily to promote brain healing. If it causes “fish burps” the capsules can be frozen and taken at the start of the meal so that they pass through the stomach and get past the pyloric valve prior to releasing their contents. There are also flavored forms of fish oil that can be quite tasty and won't repeat.

There are also non-chemical ways to treat these brain chemistry imbalances. A completely novel way to approach the problem is to alter the electrical activity in the brain. There are a few ways to do this. Alpha Stimulation ¹⁷ is a means of achieving the alpha wavelength which is a very relaxed state of mind by putting an artificial electrical wavelength across the brain. This entrains the brain activity to ease the brain into a very relaxed easy going state. Side effects are rare and minimal such as sweatiness and mild nausea that resolve with continued use of the device. The device is a bit larger than a pack of cigarettes, can be clipped to a belt. It consists of two small plastic clips that attach to the ear lobes. The power level is slowly increased every 5 minutes or so until the desired effect is obtained—a calm and relaxed state of mind. The effect of this device has to be experienced to be believed, especially while one is in a highly stressed state to get the most appreciation for its capabilities. TBI is another problem that is frequently found with PTSD & AF that can be helped with alpha stimulation.

Another electrical approach to dealing with the brain is EEG Neurofeedback¹⁸. An EEG is an ElectroEncephaloGram, or machine that records brain wave activity from the various areas of the brain. EEG Neurofeedback is a means of using an EEG to help re-balance the electrical activity of the brain. TBI, AF, & PTSD frequently have areas of the brain that are underactive and others that are overactive. This form of treatment can involve playing a Pacman type game without using hands; the machine monitors the activity of brain waves in different areas of the brain and can be programmed to allow the game to move forward when the targeted areas of the brain are in the proper frequencies. This helps the electrical activity of the brain to re-balance and repair itself. When the target parameters are not met the game doesn't progress. This form of immediate feedback allows healing of the brain.

Spirituality is another critical area to pay attention to. Most patients with disorders of this nature have allowed their spiritual life to lag or disappear altogether. Most people will recognize that the first commandment; “I am the Lord your God, you shall not have false god’s before you” essentially translates into “worship me”. This is the prime directive. God gives us all free will which He’ll never violate. He will however, give us a hint as to how we’re doing through our emotional state. One cannot have self-esteem if they don’t act in an esteemable manner. Most of us have seen a 2 year old running toward a busy intersection freeze in their tracks after getting “the look” from Mom. Fear freeze’s ‘em in their tracks; fear is an emotion. God does the same for us, when we aren’t on track. Forgiveness is also essential. We don’t forgive another person for their benefit, we forgive for our benefit. Forgiving those who have wronged one will release the bond between victim & perpetrator allowing the victim to heal. Holding a resentment is like drinking poison hoping the victimizer will die. The reality is that that person has no idea of the ongoing pain left in their wake; they have moved on. Take your turn to do so as well! Getting back on track is part of the healing for these syndromes.

The most important thing to remember when dealing with these syndromes is to get the help that you need! Therapists and physicians are important parts of recovery process. They are not the entire solution however, when dealing with a major life-threatening problem, pull out all the stops to promote healing. The faster and more thoroughly these problems are addressed the faster they resolve and the sooner you’re back to normal! God Bless You!

¹http://www.genovadiagnostics.com/files/profile_assets/interpretation_guides/Adrenocortex_InterpGuide.pdf

²<http://thyroid.about.com/cs/endocrinology/a/adrenalfatigue.htm>

³<http://nccam.nih.gov/news/2009/073009.htm>

⁴<http://www.womentowomen.com/adrenalfatigue/adrenalglandweightgain.aspx?id=1&campaignno=adrenalfatigue&adgroup=ag11diet&keywords=adrenal+fatigue+diet>

⁵https://www.neurorelief.com/index.php?option=com_content&task=section&id=6&Itemid=50

⁶<http://www.womentowomen.com/adrenalfatigue/adrenalglandweightgain.aspx?id=1&campaignno=adrenalfatigue&adgroup=ag11diet&keywords=adrenal+fatigue+diet>

⁷<http://allnatural.net/herbpages/passionflower.shtml>

⁸<http://allnatural.net/herbpages/skullcap.shtml>

⁹<http://allnatural.net/herbpages/hops.shtml>

¹⁰<http://allnatural.net/herbpages/valerian.shtml>

¹¹http://www.genovadiagnostics.com/files/profile_assets/interpretation_guides/Adrenocortex_InterpGuide.pdf

¹²http://en.wikipedia.org/wiki/Vitamin_C

¹³www.doctoryourself.com

¹⁴<http://www.nutristrategy.com/nutrition/niacin.htm>

¹⁵<http://www.natural-health-information-centre.com/vitamin-b6.html>

¹⁶<http://en.wikipedia.org/wiki/Tryptophan>

¹⁷<http://www.alpha-stim.com/>

¹⁸<http://en.wikipedia.org/wiki/Neurofeedback>