



# Depression

## *REDOX Highlights*

Depression continues to be shrouded by multiple clinical viewpoints and social stigma. It is the diagnosis driving 2 of the top 10 most prescribed drugs in America. The USA leads the world as the #1 most prevalent population with a diagnosis of depression.

**STUDIES SHOW** that 17% of adults will be diagnosed with depression in their lifetime. In my medical practice depression has been the most common misdiagnosis that patients bring with them as they begin their first consultation. In this newsletter I would like to cast new light on this condition and offer hope with a deeper, and simpler outline of depression. We will also discuss what can be done to help.

### **How our Brain thinks:**

Every thought we have is actually a chemical reaction. Each brain cell, as it sends a "thought" message to another cell, releases a neurotransmitter (NT) chemical. The NT is then "received" by one of our other brain cells. That is the biology of thought. Altered thoughts occur when there are too little or too many NT's, or if the receiving brain cell cannot properly recognize the NT. We do have thought patterns and habits, but the root of "depressive" thought habits is often the pressure created by NT imbalances that alter our capacity to think appropriately.

### **Impact of stress:**

Stress is best defined as our resistance to life events. When our life wishes are unrealistic, or when we argue with the facts of life, we feel stress. In time this conflict creates oxidative stress in the brain, fueled by the "stress response" from our adrenal glands and immune system. Genetic susceptibilities play a role as well.

In a recent study, in the journal *Current Neuropharmacology* 2014 March; 12(2): 140-147, the author describes a link between brain oxidative stress and psychiatric diseases. The REDOX imbalances at the root of oxidative stress normally do not exist (in the brain) due to the rich circulation and the prevalence of antioxidants.

Another recent study in *2014 Oxidative Medicine and Cellular Longevity* Vol.2014, Article ID 430216, showed as we age, or are under extreme psychological stress, our REDOX potential changes (along with NT balance) and our circulating antioxidants likewise drop. The study also noted people without depression do not have low levels of these antioxidants! Without the presence of these intra-cellular antioxidant molecules, our brain cells cannot detoxify themselves, we lose our redox potential and fall victim to oxidative stress.

### **Solutions:**

Traditional treatment for depression includes pharmaceutical prescriptions. These medications force the brain to increase or decrease certain NT's, but do not correct the underlying oxidative stress. Thus, patients become permanent consumers of medications and treatment, controlling but not correcting their issues. Medications should never be changed without medical supervision, and can be life saving in certain situations. There can, however, be healthier options to balance our NT's and aid our treatment options for depression. Mass spectrometry measurements of NT levels in

## What Can We Do to Battle Depression? (cont'd)

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urine samples, can provide detailed understanding of imbalances. Replenishing the brain with certain amino acid supplements can provide help.

An innovative approach, which gets at the root of our brain physiology, is supplementing our bodies with balanced REDOX molecules. I have personally witnessed this approach restore emotional balance to dozens of patients over the years. There are no "side effects" like with prescription medicines. REDOX molecules restore

the cellular redox potential, and thus minimize brain oxidative stress. This balances NT levels giving the opportunity for appropriate thought pathways to return.

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