Balance
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**Vitamins and Supplements to Help Manage Your Mood**

**Omega-3 Fatty Acids, DHA and EPA**
These essential fatty acids reduce inflammation and play a critical role in brain function, especially memory and mood. Your body can't make them, you need to either consume them in your diet or take a supplement. Not all Omega-3 supplements are created equal, a little research and comparison can help you choose a high quality supplement that is a good value without side effects or risks that come from less expensive but lower quality brand. Avoid products that include fish protein (fishy burp back) or are manufactured overseas (more likely to contain high levels of mercury).

**Probiotics**
I have to say that if I had to recommend one supplement to all patients to start today it would be a high quality probiotic. New and exciting research is emerging almost daily that shows the influence of our gut bacteria on our physical and mental health. The average American diet is not providing the diversity in gut flora that we need and even worse, processed foods, chemicals, preservatives and antibiotics kill off the most important and healthy organisms. It is crucial to keep your intestines in good shape because your brain is only as healthy as your gut. The nerve cells in our gut manufacture 80 to 90 percent of our body's serotonin, the neurotransmitter we need to stay sane. That's more than our brain makes. And the gut is in constant communication with the brain, sending it information that most definitely affects your mood, even as the messages never come to consciousness. In addition, the majority of our immune system cells are located in the gut. A functional and healthy gut microbiome will help modulate your immune system and can help you stay healthy and keep your autoimmune disorder in check.

**Vitamin D**
This deficiency has been linked to depression, dementia, and autism. Most of our levels drop off during the fall and winter months, since sunlight is the richest source. The majority of our patients are deficient in Vitamin D, confirmed by laboratory evaluation. There is a very strong link between Vitamin D deficiency and depression.

**Magnesium**
Chances are good that you are magnesium-deficient. Your lab values may look normal (this is because our bodies keep blood levels adequate at the expense of other systems in the body. Our lifestyles decrease our levels: excess alcohol, salt, coffee, sugar, phosphoric acid (in soda), chronic stress, antibiotics, and diuretics (water pills). Magnesium is sometimes referred to as the stress antidote, the most powerful relaxation mineral that exists and deficiency is seen in disorders such as headache, restless legs, muscle cramps and depression. It is found in seaweed, greens, and beans. We recommend taking magnesium at bedtime as it can help with sleep as well.

**Vitamin B Complex**
B vitamins like vitamin B-6 and vitamin B-12 can provide some incredible health benefits, including reduced stroke risk and healthy skin and nails. A vitamin B deficiency may affect your mental health, in fact, more than a quarter of severely depressed older women are found to be deficient in B-12. The best sources of vitamin B-6 are poultry, seafood, bananas, and leafy green vegetables. Vitamin B-12 is found in animal foods (meat, fish, poultry, eggs, and milk) and shellfish, such as clams, mussels, and crab. Vitamin B-6,,= vitamin B-12, along with folate, are considered the "mighty methylators" for mental health, important for the process of building neurotransmitters such as serotonin, norepinepherine and dopamine. Because of the frequency of MTHFR variants in our patients we recommend taking methylated B vitamins and L-methylfolate unless you've had genetic testing and have a

homozygous normal gene.

**Folate**
As mentioned above, folate is an important vitamin and an integral part of the process of methylation and neurotransmitter production in your body. Methylated folic acid is available in a supplement, by prescription or in foods such as dark leafy greens, beans and legumes, and citrus fruits and juices. Patients with variations in the MTHFR gene should avoid unmethylated folic acid as it can cause mental and physical health problems.

**Iron**
Iron deficiency is pretty common in women. About 20 percent of women, and 50 percent of pregnant women, are deficient. The most common form of anemia — an insufficient number of red blood cells — is caused by iron deficiency. Its symptoms are similar to depression: fatigue, irritability, brain fog. Most adults should consume 8 to 18 mg of iron daily, depending on age, gender, and diet, according to the NIH. Good sources of iron include red meat, fish, and poultry. If you really want to get more red blood cells, eat liver.

**Zinc**
Zinc is used by more enzymes (and we have over 300) than any other mineral. It is crucial to many of our systems, including the thyroid. It activates our digestive enzymes so that we can break down our food, and works to prevent food allergies (which, in turn, averts depression in some people, since some of our mood disruptions are triggered by food allergies). It also helps our DNA to repair and produce proteins and even prevents the transformation of Testosterone to DHT (causing hair loss). Finally, zinc helps control inflammation and boosts our immune system. All patients, especially those with irritable bowel syndrome, PCOS and thyroid disorders, need a daily zinc supplement.

**Iodine**
Iodine deficiency can be a big problem because iodine is critical for the thyroid to work as it should, and the thyroid affects more than you think: your energy, metabolism, body temperature, growth, immune function, and brain performance (concentration, memory, and more). When it's not functioning properly, you can feel very depressed, among other things. You can get iodine by using an iodine-enriched salt, or by eating dried seaweed, shrimp, or cod.

**Selenium**
Like iodine, selenium is important for good thyroid function. It assists the conversion of inactive thyroid hormone T4 to the active thyroid hormone, T3. It also helps one of our important antioxidants (glutathione peroxidase) keep polyunsaturated acids in our cell membranes from getting oxidized.

**Calcium**
Most women are aware of the need to consume adequate amounts of calcium to help prevent osteoporosis and bone loss. But calcium is also important for the prevention of mood disorders as well. Calcium doesn't reduce depression itself but eliminating dairy from your diet can reduce depression, especially if you have food intolerances that cause inflammation in the brain. Calcium can also help prevent muscle cramps and fatigue that may be a symptom of low levels.

**Vitamin C**
Vitamin C is an important factor in our immune system. It is involved in the process of growth and repair of tissues in all parts of your body and is an important antioxidant.

**Amino acids**
Amino acids — the building blocks of protein — help your brain properly function. A deficiency in amino acids may cause you to feel sluggish, foggy, unfocused, and depressed. Good sources of amino acids include beef, eggs, fish, beans, seeds, and nuts. Amino acids are also building blocks for neurotransmitters such as Serotonin and Melatonin, among others.

## Other Supplements

### SAM-e (S-adenosylmethionine)

We actually make SAM-e when the amino acid methionine combines with adenosyl-triphosphate (ATP), which is involved in the synthesis of neurotransmitters. The supplement we take is a stabilized form of that substance. It has only been available in the U.S. since 1999. A 2002 review by the U.S. Agency for Healthcare Research and Quality found that SAM-e was more effective than a placebo and equally as effective as antidepressants. Other studies suggested that adding SAM-e to an antidepressant may improve results in women who haven't responded to medication and in patients with obsessive compulsive disorder.

### Turmeric (Curcuman)

It's actually the seasoning used in curry dishes, and has been used for thousands of years in Chinese and Indian medicine to treat a variety of health conditions. It is currently being studied as an antioxidant with benefits in preventing memory decline, depression, anxiety and cardiovascular disease.

### GABA

Most of the anti-anxiety medications today (Valium, Xanax, Ativan) act on the GABA (gamma-aminobutyric acid) pathways to calm and relax the nervous system. GABA is known as the "anti-anxiety" neurotransmitter. However, these types of drugs (benzodiazepines, and benzodiazepine-like drugs such as Ambien and Lunesta) have been found to have dangerous side effects including behavior changes, respiratory depression and memory loss.

### Melatonin

Melatonin is a neuro hormone that is involved in the circadian rhythm or sleep-wake cycle. It can be helpful for treating patients with delayed sleep phase disorder. It should be taken at a dose of 1mg to 3mg one hour before bedtime. Exposure to blue light (phones, television or computers) after taking it make it will cause it to be ineffective. It should not be taken while pregnant or breastfeeding or at higher doses.