

7 Nutritional Supplements Everyone Should Know About

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The over the counter supplement market has exploded in the past few years. Known commercially as the Vitamin, Mineral and Supplement market or VMS for short, total sales in 2012 were over \$32 billion. In the medical field these are sometimes referred to as nutraceuticals, to differentiate them from pharmaceuticals which require a prescription from a physician. With this has come a barrage of information from advertising, TV spots, infomercials, and magazines. Unfortunately all this barrage of information usually comes in the form of pseudoscience and the occasional outrageous claim. To be fair, rigorous clinical scientific trials are very expensive to perform. Referred to as double-blind, placebo controlled, large multi-site trials, they have to be overseen by research organizations, and run through Institutional review boards and can cost between 100 and 200 million dollars to perform. Really only big Pharmaceutical companies have that much capital to risk. The reason why they take the risk is to pursue FDA approval, which helps physicians feel more protected from liability and more comfortable to prescribe the product. Because of this bizarre Medical-Industrial-Complex that has evolved in the US mainly due to government bureaucracy and our litigious society, nutraceuticals will never have the kind of big science behind them that we have currently with pharmaceuticals drugs. Since vitamins and supplements are not patented and so affordable, there is simply no rationale to spend multi-millions and jump through all the hoops that the FDA now requires for a natural supplement that costs pennies. So where does that leave us? Well there have been a number of smaller trials both here in the U.S. and abroad that have shed some light on some of the benefits as well as drawbacks of using nutraceuticals. Similar to the prescription pharmaceuticals, they can be of value if taken correctly and for the right indications. It is common for me to see a patient taking a large dose of some supplement only to tell me no one recommended it, they are taking it because they heard it was good for them. I would counter that similar to prescription medica-

tion, there are risks and benefits with nutraceuticals, just like prescription medication, and the benefit will only be realized if the right supplement is taken for the right reason and in the correct way. Add to that the complexity of trying to identify the quality and purity of over the counter product in general, and the variables can be difficult to assess. Typically I recommend pharmaceutical grade nutraceuticals that have been tested for purity and concentration and certified by an independent review process for quality such as U.S. Pharmacopeia. Below is listed the most common supplements I recommend in my office and why.

1) Magnesium. Magnesium acts as a cellular stabilizer and reduces neurologic excitation. It is recommended for Restless Legs, a common condition affect some 10-15 of the population associated with an unpleasant feeling in the legs requiring constant movement to distract from the unwarranted sensations. It has also been shown to be helpful in treating the pain and muscle spasms of Fibromyalgia, which is the most common widespread pain condition of the world, affecting some two to five percent of the population. Magnesium is recommended by the American Headache Association for the prevention of migraine headache, the genes for which are present in 15-20 percent of the population. There is also rationale for using it adjunctively for mood stabilization and epilepsy. Obstetricians have historically used Magnesium to treat the life threatening condition of pre-eclampsia and it is also being studied in the acute treatment of stroke and heart attack. Magnesium can come in various salt forms such as Oxide or Sulfate which are typically very poorly tolerated and can cause nausea and stomach cramps. The recommended forms are Gluconate and Malate and reacted Magnesium.



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2) Co-Q10. CoQ10 is the essential compound found in mitochondria which are the sub-cellular organelles that are present in every cell of our body and responsible for energy production. Without the energy producing capacity of mitochondria we would be unable to live. CoQ-10 is recommended for the prevention of migraine and also in high doses for symptomatic benefit in Parkinson Disease. Many medications that are prescribed by physicians deplete CoQ10 and lead to dysfunction of the brain, such as memory and cognitive problems, nerve damage and muscle damage. Statin drugs prescribed for the treatment of lowering cholesterol are the most notorious for depleting CoQ10 and causing neurological symptoms. Some of the statin drugs were actually taken off the market because people died from rapid muscle breakdown. I recommend that patients minimize their need for statins by drastically lowering their sugar intake. Some experts believe that everyone who is on a statin should be taking CoQ10 supplementation. Ubiquinone is the oxidized form that is typically sold over the counter but our body mainly uses Ubiquinol the antioxidant form. Certain people may not be able to get the benefit from the oxidized form of CoQ10 and require the purer antioxidant form Ubiquinol.

3) Alpha Lipoic Acid. ALA is a powerful antioxidant. Antioxidants prevent the damage to tissues by neutralizing free radicals in the body. One condition where the effects of free radicals in the body can have devastating effects is diabetes. It has been shown that ALA in dose of 200 mg a day can help prevent progression of diabetic neuropathy, where the nerves in the arms and legs are slowly damaged over time leading to numbness, weakness, imbalance, incontinence and sexual dysfunction.

4) Omega 3. There are good fats and bad fats. Omega 3's, like EPA and DHA found in fish, also known as Fish Oil, and ALA found in nuts and seeds are the good ones. They are "essential" which means not only does your body need them but also the body cannot make them on their own, so we have to get them from our diet. Omega 3 can lower blood fat, triglyceride, which lowers risk of heart disease. Fish Oil can also be of benefit for autoimmune diseases like Rheumatoid Arthritis by reducing inflammation. There have also been studies suggesting benefit in Asthma, Depression, and ADHD. It is even helpful for dogs and cats for arthritis, cholesterol, and skin issues, but the dosage has to be modified. When taking Fish Oil, purity is important, so a high quality, pharmaceutical grade product is recommended.

5) Aloe. Aloe is a succulent plant, part of the Lily family, and is packed with A, C, E, and B vitamins, minerals, Amino Acids and Fatty Acids. It is an Adaptogen which means it helps your body adapt to stressors from the environment. It is very helpful for constipation and to improve digestion, but because it is an adaptogen it is helpful for literally any digestive issue, including diarrhea, acid reflux and irritable bowel syndrome. It acts as an antibiotic, antiviral, and antifungal, reduces inflammation, and helps the immune system. Not only can it be ingested but it is also great for most skin issues and can be applied topically. It is best taken in pure liquid either for ingestion or when applied to the skin.

6) Probiotics. Probiotics are the good bacteria and yeasts that

are believed to have health benefits. At any given time there is about two pounds of bacteria in our gut and bowels. This is now being described as the gut microbiome. An entire world that we are just learning about. You can even differentiate three main types of people by their particular type of gut flora, or enterotype. The role of having good gut bacteria probably acts as our first line of immune defense. On the other hand bad bacteria is invasive and allows bad pathogens into our bodies creating inflammation which leads to disease. Living in an overly sterile environment leads to a decrease in the gut microbiome diversity and increases autoimmune and allergic disease. The widespread overuse of antibiotics leads to a devastating destruction of the entire gut microbiome leaving one open to colonization with bad bacteria that will promote more disease. Introducing good bacteria in the form of Probiotics is believed to help as a first line of defense and promote a healthy immune system. The dosage or concentration of Probiotics will differ depending on whether you are using it as maintenance or replenishing the gut flora after a course of antibiotics.

7) Vitamin B12. Vitamin B12 is the most important vitamin for the nervous system and the blood. Too little B12 will cause anemia and it is also the leading preventable cause of damage to the Brain, Spinal Cord, and Peripheral Nerves. B12 can only be absorbed from food or vitamin if the stomach produces a protein called Intrinsic Factor. Most causes of B12 deficiency are because Intrinsic Factor production has been damaged by autoimmune disease or acid damage in the stomach. Without Intrinsic Factor, ingesting B12 in any form will not work and B12 must then be injected into the body using shots usually given monthly. However many people have low normal B12 levels that still results in damage to the nervous system and which can respond to oral B12 supplementation. Most of the B vitamins play important roles in nervous system health. B1 deficiency can be seen in Alcoholics and also easily replaced. B2 supplementation is thought to be helpful in migraine prevention. B6 is also helpful for the nervous system but taking too high of a dose can actually cause neurotoxicity. But of all the B vitamins, B12 deficiency is the most important in terms of maintaining optimal nervous system function and easy to test for and to replace.

Hopefully you now have a basic understanding of some of the supplements, vitamins, and minerals that are commonly used now in clinical practice and for what reasons. An important point to remember is that the nutraceutical market is not regulated by the FDA and consequently purity and concentration of these products can vary widely. Use of the appropriate supplement, for the correct indication and of pharmaceutical grade quality will give the best chance of improving health.

For more information on migraine headaches or on other neurological issues, Dr. Rosenfeld may be reached at Neurology and Sleep Medicine located at SouthCoast Medical Group, 1326 Eisenhower Drive, Savannah, Georgia 31406 or you may call him at (912) 691-4100