

# The Doctor is In

with Mark Pellegrino, M.D.



by Margy Squires

**Nutritional therapy for fibromyalgia is an important part of feeling your best.** Mark Pellegrino, M.D., has cared for more than 25,000 fibromyalgia patients and has fibromyalgia himself, making him well qualified to answer our questions about supplements for energy, sleep, pain and other symptoms common to this chronic condition.

## Why do you recommend supplements for fibromyalgia?

There are a number of nutritional deficiencies in fibromyalgia (FM), so trying to correct them through supplements is an important treatment strategy. All of us require a minimum daily dose of vitamins and minerals to run our body's metabolism and key reactions to promote homeostasis. Homeostasis is the body's natural ability to maintain its stable harmony and balance among its hormones, enzymes, muscles and organs to prevent disease or to allow the body to heal itself.

**“Nutritional supplements are one of the most important treatments I recommend for fibromyalgia.”**

People with fibromyalgia and other chronic diseases usually require more than minimum daily requirements because their bodies have deficiencies as part of the disease, and extra dosing is needed not only to meet the daily requirement but to *replace* and *restore* the deficiencies.

Over the years I have used a lot of supplements in the treatment of FM and I believe they are effective in many patients. Not all patients benefit but, in general, supplements are safe to try and, if they help, are relatively inexpensive to continue. Today, nutritional supplements are one of the most important treatments I recommend for fibromyalgia.

## What are some of the deficiencies in FM?

A number of deficiencies have been found in FM, and include: Serotonin, Magnesium, ATP (or energy), Vitamin B-12, Low Growth Hormone Level, Adrenal Hormone and Vitamin D3.

## How does 5-HTP help serotonin deficiency?

First of all, serotonin is an important hormone and neurotransmitter for regulating our food and sleep behavior, endocrine function, mood, energy and pain. Low serotonin is common in FM and can cause increased pain, fatigue, depression and hypoglycemia.

Serotonin is manufactured from the amino acid tryptophan. Tryptophan becomes 5-HTP or 5-Hydroxy Tryptophan, a modified amino acid that the body uses as a substrate or building block to manufacture serotonin. 5-HTP, when ingested, is absorbed into the blood stream and crosses the blood brain barrier. In the liver and nervous tissue, 5-HTP (with the help of vitamin B6) forms serotonin. Serotonin does not cross the blood brain barrier so ingesting it does not mean it is able to reach the brain and central nervous system where it's needed. However, ingesting 5-HTP allows increased production of serotonin in the brain and central nervous system where it can be helpful.

## Do you recommend magnesium for FM?

I usually recommend magnesium supplements for FM. Magnesium (Mg) deficiency is common in the general population but even more so for FM. Intracellular magnesium is low in fibromyalgia which interferes with the muscles ability to relax and make energy. Magnesium is important in helping the muscles relax, making ATP and helping convert 5-HTP to serotonin. Symptoms of low Mg in fibromyalgia include increased fatigue, increased spasms and increased pain. Individuals with low Mg are more prone to injuring their muscles when they exercise. Exercise intolerance or increased pain and spasms after activity is another symptom of low magnesium and fibromyalgia.



Magnesium offers pain relief by decreasing the pain response. Several recent clinical studies have shown that Mg blocks pain by reducing the concentration of inflammatory substances in the bloodstream, such as interleukin-6 and tumor necrosis

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## The Doctor is In *continued*

factor. Magnesium also acts in a manner similar to a calcium channel blocker and thus lessens neuropathic related pain by this mechanism. In addition, oral magnesium significantly reduces substance P synthesis which is now known to be a pain neurotransmitter, in both brain and spinal cord tissues. Studies by I. Jon Russell and colleagues have shown increased substance P levels in FM patients which is felt to contribute to the pain amplification process.

Magnesium bisglycinate is the preferred type of magnesium supplement. Many of my patients who take a magnesium bisglycinate supplement report decreased pain, improved energy, and more stable baseline or a combination of these.

### How does CoQ10 help with the ATP energy crunch?

Biochemical studies show that FM patients have low ATP or energy molecules in their muscles. Other factors that lower the ATP include aging, certain medicines such as statin medicines and beta blockers, and being overweight. One dietary supplement that can help increase the ATP level is CoQ10. CoQ10 is a vital enzyme in the energy producing pathway of the muscles' energy centers called the mitochondria. CoQ10 helps the mitochondria form more ATP. Meat and fish are the richest sources of dietary CoQ10 but those with FM are not making enough ATP so supplementation helps.

### What about B-12 deficiency?

I have found many with FM have a relatively low B-12 level. Vitamin B-12 is important in manufacturing red blood cells, and improving nerve pathways, DNA synthesis and folate metabolism. Symptoms of low B-12 include increased fatigue, numbness, tingling, and depressed immune system.

B-12 supplements taken in sublingual form are absorbed directly into the blood vessels in the mouth membrane which is better for many who cannot absorb B-12 through the stomach. I frequently prescribe B-12 injections (1 mg intramuscular) for 6 weeks or more to help raise B-12 levels when needed.

### Why do you recommend Colostrum?

People with FM have decreased growth hormone levels as measured by IGF-1 (insulin-like growth factor 1), a derivative of growth hormone. Growth hormone in adults is not needed for growth, but rather for repair and recovery of muscles and other tissues. Symptoms of low growth hormone include fatigue, increased fibrofog, decreased metabolism and depressed immune system.

Colostrum is a supplement that has growth hormone and immunoglobulins. Bovine (beef) colostrum is taken orally and is essentially identical to human IGF-1. Bovine colostrum given orally has been found to raise the serum IGF-1 levels in humans. I find that about 75% of my patients report improvement in their energy level and concentration when taking colostrum. Also, colostrum has been found to improve the immune system and particularly help fight off viral infections.

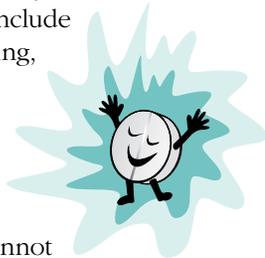


An added benefit in fibromyalgia patients taking colostrum can be improvement in their immune system and decreased viral infections. In addition to promoting improvement in cognition and a healthier immune system, colostrum has been titled as having anti-aging properties and helpful in improving athletic performance.

### How do adrenal hormones affect FM? What helps?

The adrenal glands can be affected in FM and impair the body's cortisol levels and ability to handle stress. These dysfunctional adrenal glands can lead to an impaired immune system and complications of chronic stress. Supplements that boost the immune system can include Colostrum, Vitamin C, Zinc, Echinacea, Cinnamon, Garlic and Goldenseal. Antioxidants are helpful in fighting free radicals, supporting the cellular function, and improving the immune system. Vitamins A and E, Grape Seed Extract and Alpha Lipoic Acid, Licorice Root and Eleuthero can also help improve adrenal gland function and boost stress and immune responses.

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The B complex family supports cell metabolism to reduce fatigue. Three B vitamins are especially helpful. B6 acts in several pathways for the creation of adrenal hormones. B5 supports fat, protein and carbohydrate metabolism to produce energy. B-12 further helps energy production, plus the repair and maintenance of red blood cells.

### Why does vitamin D3 help with pain?

Mayo Clinic researchers showed a correlation between low vitamin D levels and the amount of narcotic medication taken by patients who have chronic pain. The study found that patients who required narcotic pain medication and who also had inadequate levels of vitamin D were taking much higher doses of pain medicine compared to those who had adequate levels of vitamin D. The patients with lower vitamin D levels reported worse physical functioning and worse overall health perception.



Vitamin D is known to promote both bone and muscle strength but it's also important in the body's management

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## The Doctor is In *continued*

of pain. It helps the immune system and additional research shows it may help protect the body from certain types of abdominal cancers.

Vitamin D deficiency can cause diffuse pain and impaired neuromuscular functioning so it's important to correct any deficiency to promote better pain control among numerous other health issues.

Supplements with vitamin D (the D3 form) can ultimately lead to improvement in the body's ability to control pain. D3 can help improve neuromuscular functioning which hopefully would correlate to significant improvement in patient's pain, function and quality of life.

### Do you think brain nutrients could help fibrofog?

I often recommend various supplements to try to improve fibrofog. One is 5-HTP which works by providing a substrate to build more serotonin in the brain. Another is colostrum which increases growth hormone levels which can improve brain activity. Also, Acetyl L-carnitine and Phosphatidyl Serine help support neurotransmission and Ginkgo Biloba may increase blood flow to the brain.



### What are supplements for sleep and why?

Supplements for poor sleep can include 5-HTP, Melatonin, Valerian Root Extract, Lemon Balm, Passion Flower or a combination. 5-HTP can be a sleep inducer, especially when taken at bedtime. Melatonin helps control your sleep and wake cycles. Taking Melatonin supplements can be helpful to treat sleep problems such as insomnia and is also used to treat jet lag. Valerian Root Extract,



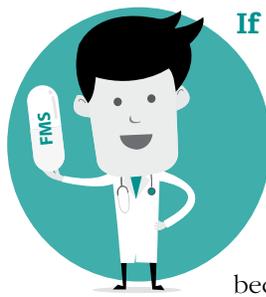
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Lemon Balm Extract and Passion Flower all have properties of a mild sedative which can improve sleepiness and sleep quality. Some herbs like valerian work best in a standardized form so watch labels.



### If I can only afford one supplement what should it be?

I would want to take the Magic Cure All Fibromyalgia Pill. However, since no such supplement is available yet, I guess I have to pick something else.

If it were me, I would take magnesium because it has potential to help decrease pain, improve energy, improve sleep symptoms, protect the muscles from injury with exercising and enable a person to be more active without flaring up the pain. That's a lot of potential for a relatively inexpensive supplement.

I work with my patients in an open-minded and responsible manner about trying supplements. Educate yourself by reading up on various products. Make decisions based on your knowledge and remember to work with your doctor.

*Mark Pellegrino, M.D. is a board certified specialist in Physical Medicine & Rehabilitation who has seen more than 25,000 fibromyalgia patients in his private practice in Canton, Ohio. He is also Rehabilitation Medical Director at Alliance Community Hospital's Center of Rehabilitation. Dr. Pellegrino has FM himself and is author of several books on the subject, including Fibromyalgia, Up Close and Personal, available from TyH.*

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