



# **Dr. Ryan Mairs**

## **Health Restoration Project**

Blog Posts from Blogger.com  
2013 - 2017

Precision Chiropractic & Wellness  
Waseca, Minnesota



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## **What is Different about Functional Medicine?**

May 14, 2013

### Functional Medicine Seeks to Identify Your Toxic Load

Your body was created with the inborn ability to heal itself. Unfortunately there are "stressors" that inhibit your body's ability to perform this function. A stressor is defined as anything that inhibits your body's ability to function normally and pushes you away from your optimal health.

Stressors can be physiological, biochemical, metabolic, emotional or structural. Some common stressors are:

- Environmental toxins
- Digestive dysfunction
- Viral, bacterial, and parasitic pathogens
- Drug side effects
- Mineral or vitamin deficiencies
- Allergies or sensitivities to foods
- Spinal subluxation
- Emotional stress

"Total Load" is the accumulation of these stressors and the overall effect that they have on your body's ability to function optimally. Your body is able to adapt greatly to the stressors that it encounters, but everyone has a breaking point.

For some that breaking point may look like an allergy, an auto-immune disease, arthritis, or some other chronic disease.

### Functional Medicine Recognizes Biological Individuality

There are subtle differences in everyone's biochemical make up. What that means is that different people will react to foods, chemicals, drugs, etc. in different ways. Have you ever smelled a certain perfume and felt a headache come on, or used a particular cleaner and become sick in the next few hours? One of the classic examples is red wine triggering a migraine in certain people. How come this happens to some people and not others? Every one of us is genetically unique and we have all been influenced by the environments that we have lived in up to this point. Functional Medicine seeks to find out what your individual nutritional needs are and what you should work hard to avoid contact with.



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May 14, 2013

Functional Medicine is Patient Specific

Rather than trying to match up set of symptoms with the right medication to suppress those symptoms, Functional Medicine seeks to find the underlying cause of the disease process. I use the Functional Medicine techniques to do a thorough examination of your past medical records, perform a comprehensive history and examination, and utilize science-based Functional Diagnostic Tests to uncover those often undiscovered, real causes for your body's inability to function correctly and heal itself.

Once known I can develop an individualized, patient-specific treatment to eliminate those stressors that are preventing your body to work correctly and guide you in ways to provide what your body needs to begin the healing process.

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## **What You Need to Know About Magnesium Deficiency**

May 15, 2013

The more that magnesium is studied the more of its many roles that are discovered. Low levels of magnesium have been associated with muscle weakness, chronic fatigue, muscle cramps, heart problems, elevated blood pressure, hypersensitivity of the nerves, mental disturbances, and depression. Why does magnesium effect so many different areas of your body? Magnesium's role is to help your enzymes work correctly and in turn enzymes work in every cell of your body to make them function correctly.

The causes of low magnesium can be varied. In our world of processed and modified foods many Americans are not getting the quality of food that they need. The best foods for magnesium are green leafy vegetables, fish, meats, and fruits. Magnesium is depleted by alcohol consumption and very high fat diets. So, if you are concerned that you are low in magnesium, increase you fruits and vegetables and reduce your alcohol and fat, never a bad idea anyway.

Of course there are causes that are not as easily helped. Inflammatory conditions of the small and large intestines such as irritable bowel syndrome or gluten sensitivity can lead to an inability to absorb magnesium. Or on the other side certain conditions can cause the kidneys to excrete magnesium at a rate greater than is absorbed. Similarly heart medications, stomach acid blockers, and antibiotics can all decrease magnesium levels. If you suspect that this maybe the case, I can use Functional Medicine testing to determine what the real cause is.

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## The Role of Vitamin D in Pregnancy

May 16, 2013

You no doubt have heard a lot of talk about the health effects of Vitamin D, but how does this vitamin relate to fertility and pregnancy? In a way that is a bit of a trick question because Vitamin D is really not a vitamin but a hormone.

From a structural stand point it looks very similar to the sex hormones such as estrogen, testosterone, and progesterone. Looking from a functional side, Vitamin D is used to send messages to cells and triggers a change in those cells, just like other hormones.

So what specifically does Vitamin D do? One of its major functions is to "prime" or prepare cells for other hormones to be able to work properly. This is where Vitamin D's role in conception comes in. For ovulation and conception to occur, not only do your major hormones (estrogen and progesterone) need to be in proper balance, but so to the role playing hormones, such as the thyroid hormones, cortisol, DHEA, testosterone, and yes Vitamin D.

The level of circulating Vitamin D can play a role in resolving fertility issues associated with poly cystic ovarian syndrome (PCOS) and lack of ovulation. Of course there is the other side of the fertility issue. Low levels of Vitamin D leads to decreased sperm motility and production. So guys should be tested for Vitamin D levels also if there are fertility problems.

What about when you are pregnant? One study reports evidence that Vitamin D plays a role in implantation, normal placental development and prevention of eclampsia.

You can imagine, if Vitamin D is so important to hormone activity, just how important it would be to the developing baby. Studies have demonstrated a healthy levels of maternal Vitamin D in pregnancy are associated with a decreased likelihood of asthma, respiratory infections, Type I diabetes and even multiple sclerosis.

Knowing and monitoring your Vitamin D levels pre-conception and throughout pregnancy makes sense and is easy to do with a simple at-home finger stick test that we order through our office.

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## The Most Dangerous Food Additive?

May 16, 2013

Do you use "sugar-free" products thinking that they will help you lose weight or in an effort to eat healthier? If so, you may be surprised to find out that you are using one of the most dangerous food additives ever invented.

Aspartame is a chemical that is 180 times more sweet than sugar, unfortunately it is when Aspartame starts to be digested in your body that the problem starts. First, one of the chemicals that it is made of, Aspartic acid, is broken into two amino acids, aspartate and glutamate. Aspartate and glutamate act as neurotransmitters in our brain, assisting in the transmission of information from one neuron to the next. Unfortunately when we have too high a concentration of these amino acids they cause excessive calcium to go into the neurons. This excessive calcium leads the neuron to die. So aspartame literally kills brain cells.

Of adverse reactions to food additives reported to the FDA, Aspartame accounts for 75%. Some of the symptoms associated with aspartame reactions: headache, nausea, depression, fatigue, insomnia, anxiety attacks, joint pain, heart palpitation, vision problems and ironically enough WEIGHT GAIN. Many of these symptoms are a direct result of the damage done to the brain cells.

Another component of Aspartame, phenylalanine, can build up in the brain and cause a decrease in serotonin levels. Decreased serotonin is associated with emotional disorders like depression. This can be especially dangerous for infants and unborn children due to the rapid development of their brains. Some studies have even suggested that an increase in phenylalanine can cause schizophrenia and increase the likelihood of seizures. The third of the dangerous components in Aspartame is methanol, or wood alcohol. Methanol is broken down into formaldehyde and formic acid. Formaldehyde is a deadly neurotoxin and carcinogen, responsible for damage to the retina of the eye and birth defects. The toxic effects of methanol are greatly increased when it is heated above 86 degrees, this happens with improper storage or in the cooking process, think sugar-free gelatin.

The EPA recommends limiting consumption of methanol to 7.8 mg/day. One liter of an aspartame-sweetened beverage contains approximately 56mg of methanol. Methanol poisoning can lead to headaches, weakness, memory loss, pain into the arms and legs and vision loss. Many of these symptoms are similar to the symptoms that come from the damage done in multiple sclerosis.

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A handwritten signature in black ink, appearing to read "Ryan Mairs", with a stylized flourish at the end.



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## **Beware of this "Healthy" Protein Source**

May 22, 2013

This post is a warning especially for the guys out there. In recent years well placed advertising and poor understanding of hormones has taught many that soy is a healthy choice, if not a superfood. In reality it is leading to a feminizing of males.

In 2009 Men's Health told the story of a retired U.S. Army officer, James Price, who started developing unusual symptoms. Always in good health and active, Price started to develop painful lumps under each nipple, losing hair from his beard, arms, chest and legs, and other symptoms associated with an imbalance in hormones. When tested he was found to have blood levels of estrogen (the primary female sex hormone) eight times higher than normal. In fact they were even higher than levels found in healthy women.

The mystery though was "Where was the estrogen coming from?" He was tested for estrogen producing tumors and found to be in the clear. The fourth doctor that Price worked with finally started asking the right questions and dug into his diet and lifestyle. What was discovered is that in an effort live healthy Price was consuming about 3 quarts of soy milk a day.

"Why is this a problem, I thought soy was the new health food?" you might be saying. The problem with soy products is that they contain phytoestrogens, which are compounds that structurally look like the female sex hormone estrogen, and can mimic the effects of estrogen. So in men, soy has the effect of increasing estrogen levels and feminizing men. No women are not immune to negative effects of too much soy, but I will have to address that later.

Action steps:

Avoid soy based product (weight lifters check your protein source)

If you suspect a hormone imbalance, get tested at our clinic or another functional medicine clinic

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## Are Your Hormones Causing Your Hair Loss?

May 30, 2013

Thinning hair and hair loss can be a major concern for men and women alike. It can affect confidence and self-image. One very common but often ignored cause can be the balance of your body's hormones.

When your hormones are in their optimal balance and you have proper nutrition healthy hair growth is promoted. Women tend to be more susceptible to hormonal imbalances than men due to the many different stages that their bodies go through such as the menstrual cycle, pregnancy, childbirth, breastfeeding, and menopause.

As you can see from the picture, the pituitary gland controls all of the other hormone producing parts of your body, including the thyroid, the adrenal glands, and sex hormone producers. This is important to know because each of these areas can influence the quality of your hair.

Both over-active and under-active thyroid can lead to hair loss. Hyperthyroidism is often also associated with weight loss, increased anxiety, sweating, sensitivity to heat, and difficulty sleeping. Hypothyroidism symptoms include fatigue, sensitivity to cold, dry skin, depression, and puffiness around the face.

It has long been known that stress can lead to hair loss. If the adrenal glands are overworked, due to excessive stress, the increase in cortisol can lead to hair loss, but also increased facial hair in women. The parathyroid hormones are associated with your ability to manage stress and can lead to thinning hair, muscle cramps and alterations in skin pigmentation.

Testosterone is often associated with balding in men, so it stands to reason that if a woman's balance between estrogen/progesterone and testosterone is off it could lead to similar symptoms. One common such cause for this imbalance is use of birth control pills. For further investigation of what your cause might be do not hesitate to contact us.

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## Thiamine and Fibromyalgia

June 3, 2013

A quick search of fibromyalgia support websites reveals that for the great majority of sufferers there is no quick and easy fix. There has been a plethora of treatments both medical and natural, some offering help and other a waste of time and money. In reality, as with most chronic conditions, there are many causes for the symptoms collectively known as fibromyalgia and therefor many ways to correct those underlying causes.

For example, in an article put out by the British Medical Journal in May 2013, three women suffering with fibromyalgia symptoms were all found to be deficient in the B-Vitamin, Thiamine. When they supplemented with doses of Thiamine ranging from 600-1800 mg per day they were all found to have a reduction in fatigue and pain levels. You can see the percent of reduction for each patient below:

- Patient 1: 71.3% reduction in fatigue; 80% reduction in pain.
- Patient 2: 37% reduction in fatigue; 50% reduction in pain.
- Patient 3: 60.7% reduction in fatigue; 60% reduction in pain

Now this was a very small sample size and more studies are definitely needed to support these results, but the results are very promising.

\*Note that it is not recommended to take high doses of Thiamine or any vitamin without knowing what your levels are. Side effects like insomnia and rapid heart rate can be associated with high thiamine doses. Thiamine need is one of the many vitamins that we can test for to determine your specific need. If you are one of the millions of Americans that suffers from fibromyalgia, contact us to start on the road to Restore your Health.

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## The Inflammatory Side of Fibromyalgia

June 12, 2013

Fibromyalgia is very complex in presentation and in causes, but one study demonstrates that there is a link between fibromyalgia and the inflammatory process.

Lucas et al. found that hormones and other biological markers associated with inflammation were found to be present where they normally were not, or higher than normal in the cerebro-spinal fluid, blood and skin of fibromyalgia sufferers. They do not say that fibromyalgia is an inflammatory disorder, but that inflammation plays a critical role in its onset and progression.

So what does that mean to patients with fibromyalgia? It means that keeping your body's pro- and anti-inflammatory processes balanced, may help limit flare-ups and prevent some of the fibromyalgia related inflammatory disorders, such as migraines, cystitis and irritable bowel syndrome.

A huge part of this is proper nutrition, supplementation and exercise. If you suffer with fibromyalgia and have not found someone to help guide you through this process, find a functional medicine provider that can find out what your specific needs are and start the journey to restoring your health.

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## Lost in the World of Drugs

July 1, 2013

I recently received some statistics from a study by Mayo clinic reporting that 70% of Americans are on at least one prescription medication. They went on to say that 50% are on at least 2 drugs and further more, 20% are on five or more medications. This should be a shocking statistic but unfortunately it is not all that surprising to me. It is a rare new patient that I do a consultation with that is not on at least one drug and many find it easier to just hand me a sheet of paper with all their medications on it.

These numbers speak to my heart and remind me of a patient that I had a few years back. This patient's chief complaint was chronic pain and fatigue. She was only 27 years old but she had spent most of those years struggling with pain and the depression that often goes along with chronic disease. During our initial consultation, she handed me a sheet of paper, hand-written with the names of about twenty medications on it. She reported that these were the drugs that she had been prescribed.

To many times the response to chronic pain is to attempt to cover up the symptoms with drugs. When that doesn't work more drugs are given or you are told that it is all in your head. There is a cause to the pain that you are feeling. The answer lies within your individual biochemistry and physiology. Don't give up, keep seeking the answers. Find a holistic, functional medicine doctor willing to search for the true cause, so that you can restore your health, naturally.

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## Are You Suffering From Plantar Fasciitis

July 27, 2015

What is the plantar fascia?

The plantar fascia is a connective tissue band (large flat ligament) that attaches to the bottom of the heel and extends forward towards the toes. It is an anchor point for the muscles of the bottom of the feet. Stability and balance of the foot and ankle depend on the plantar fascia to be strong, yet flexible and acts as a counterbalance to the strong muscles of the calf that attach to the heel with the Achilles tendon.

Causes of plantar fasciitis:

The plantar fascia becomes inflamed and makes walking painful when the tissue becomes injured from strain or direct trauma such as landing on the feet from height. Besides trauma, plantar fascial problems may arise simply from the calf muscle being too tight. Because the muscles of the calf are so strong, if they become overly tight they pull up on the heel, which in turn tugs on the plantar fascia and causes strain.

Symptoms of plantar fasciitis are:

- Heel pain on walking, particularly when first rising from bed or after sitting for long periods
- Burning, aching on bottom of the foot
- Painful sensation like a pebble in your shoe under the ball of the second toe





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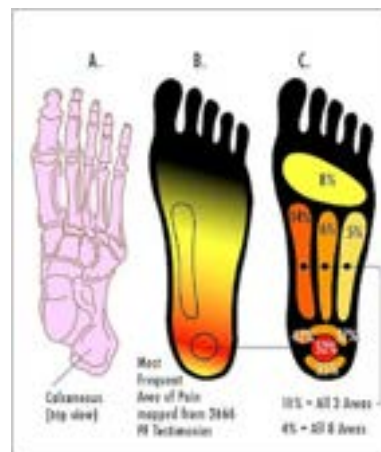
## Are You Suffering From Plantar Fasciitis (Cont.)

July 27, 2015

Plantar fasciitis treatment:

Treatment of plantar foot pain involves relieving inflammation, stretching the plantar ligament, and loosening of the calf muscle. This is a process that could take from a few visits to a few months depending on how long the condition has existed and the severity of the inflammation. Therapy modalities may include:

- Heat packs
- Custom made orthotics
- Electrical stimulation
- Cold laser therapy
- Ice therapy
- Stretching exercises
- Foot and ankle joint manipulation



Hear From a Patient:

"I had sharp throbbing pain on the right foot's arch. I took ibuprofen and foot massage...for about seven years on & off. When the pain was severe I wasn't able to play with my son or go to work. Dr. Ryan Mairs' chiropractic has helped. I am now able to return to my regular routine."

~ Y.D. from Waseca ... recent testimony on how plantar fasciitis pain can be resolved with chiropractic!!

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## **Jaw Clicking and Popping?**

March 9, 2017

Does the thought of biting into a bagel or a piece of steak make your jaw ache? The first step in proper digestion of food is the chewing process, but for too many people the act of chewing is uncomfortable and eliminates the enjoyment of the eating process. They experience pain and popping when chewing their food. They avoid enjoying certain foods or maybe even avoid eating around other people due to the fear of their jaw noise embarrassing them.

Does this sound like you? If so these can be signs of serious Tempomandibular Disorder (TMD) in the Tempomandibular joint (TMJ).

Over the years I have helped many patients with TMD reduce and even eliminate the pain and aggravation. I recently worked with a patient who would wake up in the morning with her jaw completely locked until she could work some motion into it, despite sleeping with a mouth guard every night. After removing the tension in the muscles of the jaw, and using gentle adjustments to correct the motion of the jaw when closing, she no longer is waking with pain and is able to eat what she wants with out the annoying click in the jaw.

My approach to restoring proper joint function to the TMJ is simple and effective. I first do a thorough evaluation of the TMJ and the upper joints of the neck. This evaluation includes determining how the joints are moving and examining all of the attached muscles to determine if any are too tight or weakened. Often times, this will even include listening to the TMJ with a stethoscope to determine the exact location of any clicking.

If it is determined that the problem is in the joints and muscles, and can be helped by chiropractic care, I start off very gently. The first stage of care would be to balance out the muscle tension, by relaxing the tight muscles. In mild cases, this will be enough to correct the motion and allow the jaw to heal.



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## **Jaw Clicking and Popping? (Cont.)**

March 9, 2017

The second stage, if needed, is to correct the motion of the TMJ to allow free movement and reduce the wear and tear on the joint itself. This correction is done through gentle adjustments that retrain the TMJ to move correctly again.

The third stage of care for TMD is the use of cold laser therapy to reduce inflammation and stimulate the healing process in the tissue surrounding the TMJ.

If you are experiencing pain, popping or locking of your jaw, contact me for an evaluation and recommendations on how to start enjoying your favorite foods again. Simple non-invasive treatment for TMD is available, let us help.

What Our Patients Say:

"With TMJ, I was experiencing lots of jaw pain, neck pain, and headaches. I have been to other chiropractors to get help with this, but I recently moved to the area and had to find a new chiropractor. I have been suffering from this for a few years. At times it was painful to chew my food. I experienced daily headaches. Dr. Mairs has definitely helped with the pain I was experiencing. I no longer have to deal with daily headaches and pain."

~Ashley S.

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