

# **FIBROMYALGIA: Ten tests that your doctor might not have considered... but maybe you should**

Why is this the disease that throws a wrench in the spokes of conventional medicine's bicycle wheel? This is the ultimate challenge to the Western Paradigm of medicine that says, one cause leads to one disease for which there is a one-molecular drug. This disease pries open their awareness to recognize the multi-factorial, multi-causal reality of the real-time world of Human Beings. That the three blind men's findings of the snake, the tree and the wall are all various parts of the same beast called an elephant.

The specialist of the right nostril could probably learn something from the specialist of the left nostril. And, the cardiologist and the GI specialist have more in common than previously thought. We in the field of Natural Medicine have a unique take, a more circular perspective. We want to see HUMPTY DUMPTY before he broke into a million pieces, when he was still a recognizable egg and not shards of eggshell.

I make one plea from the medical community. That we develop a new form of medicine, a medicine called egoless medicine. Realizing that healing comes from a much higher source than we could imagine and that the healing equation contains more factors than we could fathom, I only can hope and pray each day before entering the office and touching another person that I merit to be utilized by the higher power as a medium through which healing is affected. And, if I am not the messenger for this persons healing, let me have the humility to acknowledge that the true messenger needs to be found. Because it is strongly rooted in my belief system that the cure is without fail created before the illness. And, I obligate myself to act humbly upon this belief.

## **Contributing Factors:**

- ⊕ Trauma/Whiplash
- ⊕ Hypothalamus-pituitary-adrenal axis dysfunction
- ⊕ Emotional/physical/mental stress
- ⊕ Low thyroid function
- ⊕ Chronic viral, mycoplasmal infections
- ⊕ Sleep disorder
- ⊕ Growth hormone deficiency
- ⊕ Detoxification dysfunction
- ⊕ Vitamin/mineral insufficiency
- ⊕ Mitochondrial dysfunction
- ⊕ Oxidative Stress
- ⊕ Central sensitization syndrome

## ✦ Functional Intracellular Analysis ✦

*This is the most sophisticated assessment of 30 different vitamins, minerals, and amino acids. The novelty of this test is that these essential nutrients are measured from inside the cells, intracellularly, which is their final destination. Part of this test includes a novel measurement of a person's total antioxidant status, which is one of the emerging theories behind fibromyalgia. Many of these nutrients, if found deficient, can cause or contribute to widespread muscle pain, e.g. Magnesium, Vitamin D, Vitamin E, CoQ10, Thiamin, and Selenium.*

### SUPPORTING MEDICAL STUDIES:

**Hair calcium and magnesium levels in patients with fibromyalgia: a case center study.** J Manipulative Physiol Ther. 1999 Nov-Dec;22(9):586-93.

**Selenium and magnesium status in fibromyalgia .**  
Magnes Res. 1994 Dec;7(3-4):285-8.

**Selenium status in fibromyalgia.**  
Toxicol Lett. 1998 Aug;96-97:177-80.

**The tocopherols (vitamin E) in the treatment of primary fibrositis.** J Bone Joint Surg 1942;24:411-23.

### **Fibromyalgia—A Hidden Link?**

*JOURNAL OF THE AMERICAN COLLEGE OF NUTRITION, VOL. 17, NO. 3, 300-303 (1998)*

A number of similarities exist between Fibromyalgia (FM) and thiamin deficiency.

**Vitamin D deficiency is associated with anxiety and depression in fibromyalgia.** Clin Rheumatol. 2006 Jul 19

**Vitamin D levels in women with systemic lupus erythematosus and fibromyalgia.**  
J Rheumatol. 2001 Nov;28(11):2535-9.

*Half the SLE and FM patients had 25(OH)-vitamin D levels < 50 nmol/l, a level at which PTH stimulation occurs. Our data suggest that in SLE patients HCQ might inhibit conversion of 25(OH)-vitamin D to 1,25(OH)<sub>2</sub>-vitamin D.*

**An open, pilot study to evaluate the potential benefits of coenzyme Q10 combined with Ginkgo biloba extract in fibromyalgia syndrome.**

*J Int Med Res. 2002 Mar-Apr;30(2):195-9.*

Subjects were given oral doses of 200 mg coenzyme Q10 and 200 mg Ginkgo biloba extract daily for 84 days. A progressive improvement in the quality-of-life scores was observed over the study period.

### **Free radicals and antioxidants in primary fibromyalgia: an oxidative stress disorder?** Rheumatol Int. 2003 Dec 20

The role of free radicals in fibromyalgia is controversial. In this study, 85 female patients with primary fibromyalgia and 80 age-, height-, and weight-matched healthy women were evaluated for oxidant/antioxidant balance. In conclusion, oxidant/antioxidant balances were changed in fibromyalgia. Increased free radical levels may be responsible for the development of fibromyalgia. These findings may support the hypothesis of fibromyalgia as an oxidative disorder.

### **Total antioxidant capacity and the severity of the pain in patients with fibromyalgia.** Redox Rep. 2006;11(3):131-5.

Total antioxidant capacity of plasma was significantly lower in patients with fibromyalgia than in healthy controls. A significant negative correlation between visual analogue scale (VAS) and TAC level was determined.

## **⊕ Neurotransmitter Profile ⊕**

*Neurotransmitters are substances in the body that relay messages throughout the neurological system. They play a central role in the way we feel, as well as our perception of pain. Through a simple urine sample, a person can measure many of these chemicals, like serotonin, epinephrine, norepinephrine, and dopamine. These imbalances can be safely adjusted by administering specific amino acids which serve as the precursors to these substances.*

### **SUPPORTING MEDICAL STUDIES:**

#### **Serotonin levels, pain threshold, and fibromyalgia symptoms in the general population.** J Rheumatol. 1997 Mar;24(3):555-9.

To investigate the association of serum serotonin with fibromyalgia (FM), and to study the relationship of serotonin to clinical variables associated with FM. Serum serotonin levels are significantly lower in persons with FM compared to those without FM, but the range of values is wide.

## **Reduced presynaptic dopamine activity in fibromyalgia syndrome demonstrated with positron emission tomography: a pilot study.**

J Pain. 2007 Jan;8(1):51-8.

An association between FMS and reduced dopamine metabolism within the pain neuromatrix provides important insights into the pathophysiology of this mysterious disorder.

## **Metabolic syndrome in women with chronic pain.**

Metabolism. 2007 Jan;56(1):87-93.

Women with chronic pain from fibromyalgia are at an increased risk for metabolic syndrome, which may be associated with relatively elevated nor-epinephrine levels in conjunction with relatively reduced epinephrine and cortisol secretion.

## **⊕ Adrenal Cortex Stress Profile ⊕**

*Our ability to handle stress is governed by the adrenal glands, which rest directly above the kidneys. Their dysfunction is common in fibromyalgia. Fixing these imbalances can lead to dramatic improvements. The simplest way to measure the key adrenal hormones, DHEA and cortisol, is through a saliva sample. Cortisol should be released in a rhythmic pattern throughout the day. Multiple saliva samples allow this pattern to be assessed.*

## **SUPPORTING MEDICAL STUDIES:**

### **Function of the hypothalamic-pituitary-adrenal axis in patients with fibromyalgia and low back pain.** J Rheumatol. 1998 Jul;25(7):1374-81

OBJECTIVE: We suggested fibromyalgia (FM) is a disorder associated with an altered functioning of the stress-response system. The 24 h urinary free cortisol levels were significantly lower ( $p = 0.02$ ) than controls in both patient groups; patients with FM also displayed significantly lower ( $p < 0.05$ ) basal total plasma cortisol than controls. We propose that a reduced containment of the stress-response system by corticosteroid hormones is associated with the symptoms of FM.

## **⊕ Small Intestine Bacterial Overgrowth Breath Test**

*Certain parts of the small intestine can harbor harmful bacteria. In a recent medical study involving fibromyalgia patients, the levels of bacterial overgrowth correlated to the patients' pain level. This analysis is performed through an innovative, at-home breath test.*

## SUPPORTING MEDICAL STUDIES:

### **A link between irritable bowel syndrome and fibromyalgia may be related to findings on lactulose breath testing.**

Ann Rheum Dis. 2004 Apr;63(4):450-2.

To compare the prevalence and test results for bacterial overgrowth between IBS and fibromyalgia. 20% controls had an abnormal breath test compared with 84% subjects with IBS and 100% (42/42) with fibromyalgia. The degree of somatic pain in fibromyalgia correlated significantly with the hydrogen level seen on the breath test.

## ⊕ **Comprehensive Thyroid Panel** ⊕

*The thyroid and her hormones maintain healthy growth and repair of the tissues throughout the body. If the thyroid is not operating at an optimal level there can be many unpleasant and health-threatening effects. A major overlap exists between the symptoms of fibromyalgia and those of a sluggish thyroid.*

## SUPPORTING MEDICAL STUDIES:

### **A metabolic basis for fibromyalgia and its related disorders: the possible role of resistance to thyroid hormone.**

Med Hypotheses. 2003 Aug;61(2):182-9.

It has long been recognized that the symptom complex of fibromyalgia can be seen with hypothyroidism. Hypothyroidism may be categorized, like diabetes, into type I (hormone deficient) and type II (hormone resistant). Most cases of fibromyalgia fall into the latter category.

### **Mutations in the c-erbA beta 1 gene: do they underlie euthyroid fibromyalgia?** Med Hypotheses. 1997 Feb;48(2):125-35.

Virtually every feature of fibromyalgia corresponds to signs or symptoms associated with failed transcription regulation by thyroid hormone. In hypothyroid fibromyalgia, failed transcription regulation would result from thyroid-hormone deficiency. In euthyroid fibromyalgia, failed transcription regulation may result from low-affinity thyroid hormone receptors coded by a mutated c-erbA beta 1 gene, yielding partial peripheral resistance to thyroid hormone.

## ⊕ **Insulin-Like Growth Factor-1 Levels** ⊕

*Insulin-Like Growth Factor-1 accurately assesses growth hormone levels. Thirty Percent of fibromyalgics have a subnormal level of growth hormone. When this deficiency is corrected, symptoms greatly improve. This test requires only a drop of blood to be performed.*

### SUPPORTING MEDICAL STUDIES:

#### **Adult growth hormone deficiency in patients with fibromyalgia.** Curr Rheumatol Rep. 2002 Aug;4(4):306-12.

There is evidence that GH deficiency as defined in terms of a low insulin-like growth factor-1 (IGF-1) level occurs in approximately 30% of patients with fibromyalgia and is probably the cause of some morbidity. The severe GH deficiency that occurs in a subset of patients with fibromyalgia is of clinical relevance because it is a treatable disorder with demonstrated benefits to patients.

#### ⊕ **Yeast Sensitivity Test** ⊕

*Candida or yeast overgrowth is one of the great masqueraders of many chronic disorders. Muscle pain, fatigue and poor concentration can all be symptoms of a yeast sensitivity. By measuring yeast antibodies, the level of yeast can be objectified. After undergoing an anti-candida treatment, this test can also be repeated to evaluate improvements.*

#### ⊕ **Food Intolerance Test** ⊕

*This test detects individual reactions to specific food. Different from traditional allergy testing, this profile assesses delayed food reactions. 100 of the most commonly eaten foods are measured. Not only will results yeild the problematic food, but also how strong of a reaction the person is having to that food.*

#### ⊕ **Toxic Metal Analysis** ⊕

*Through a simple hair sample, all of the potentially toxic minerals can be assessed. Some of these metals include mercury, cadmium, and aluminum which are neurotoxic, causing muscular pain and fatigue.*

### SUPPORTING MEDICAL STUDIES:

#### **Mercury exposure from dental amalgam fillings in the etiology of primary fibromyalgia: a pilot study.**

J Rheumatol. 1995 Nov;22(11):2194-5.

One preliminary study speculates that exposure to toxic mercury (via amalgam tooth fillings) may in part precipitate symptoms of primary fibromyalgia.

## **Environmental immunogens and T-cell-mediated responses in fibromyalgia: evidence for immune dysregulation and determinants of granuloma formation.**

Exp Mol Pathol. 2000 Oct;69(2):102-18.

Significantly higher ( $P < 0.01$ ) stimulation indexes (SI) were found in FMS for aluminum, lead, and platinum; borderline higher ( $0.05 > P > 0.02$ ) SI were found for cadmium and silicon.

## **The relationship between fibromyalgia and the multiple chemical sensitivity syndrome.**

Scand J Rheumatol. 1997;26(5):364-7.

Thirty-three of 60 patients with FM met the criteria for MCS.

## **⊕ Dysglycemia/Metabolic Syndrome Profile ⊕**

*Failure to metabolize carbohydrates has reached epidemic proportions in this country. The cascade effect that results from the body's attempt to stabilize blood-sugar levels can shift the entire neuroendocrine system. By performing this profile, strategic dietary and lifestyle changes can be implemented.*

### **SUPPORTING MEDICAL STUDIES:**

#### **Metabolic syndrome in women with chronic pain.**

Metabolism. 2007 Jan;56(1):87-93.

Women with fibromyalgia were 5.56 times more likely than healthy controls to have metabolic syndrome. Fibromyalgia was associated with larger waist circumference, higher glycosylated hemoglobin and serum triglyceride levels, and higher systolic and diastolic blood pressure. Total and low-density lipoprotein cholesterol were also significantly higher in women with fibromyalgia.

#### **Are advanced glycation end-product-modified proteins of pathogenetic importance in fibromyalgia?**

Rheumatology (Oxford). 2002 Oct;41(10):1163-

Patients with FM have significantly higher pentosidine serum levels than healthy subjects. AGE modification of proteins leads to reduced solubility and high resistance to proteolytic digestion of such altered proteins (e.g. AGE-modified collagens). AGEs are also able to stimulate different kinds of cells via activation of the

NFkappaB, mediated by specific receptors of AGEs (e.g. RAGE) on the cell surface. Both mechanisms may contribute to the development, perpetuation and spreading of pain phenomena in FM patients.

