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Contact	Dr Alex Vasquez, ICHNFM Director, avasquez@ichnfm.org
Headline	<p>New Insights into Chronic Pain Conditions such as Migraine and Fibromyalgia are Providing Safe, Affordable, and Effective Treatments for Millions of Suffering Patients</p>
Body	<p><u>Barcelona, Spain—March 8, 2016:</u> Doctors have struggled for years in their treatment of chronic pain disorders such as migraine and fibromyalgia because the treatments have been based on an incomplete understanding of these conditions; the resulting treatment plans were therefore incomplete and insufficiently effective, leaving many patients to suffer despite receiving the “best available” medical treatments, generally with multiple pharmaceutical drugs such as analgesics of various types, each with significant cost and adverse effects. New comprehensive reviews of the research literature have provided more accurate disease models to provide clinicians new ways of understanding these conditions; these new insights are already translating into relief for millions of patients with chronic pain. These new insights are particularly relevant for patients with migraine, fibromyalgia, painful autoimmune diseases such as rheumatoid arthritis, as well as low-back pain and complex regional pain syndrome (CRPS).</p> <p>“We have worked to develop and test this comprehensive disease model for the past eight years, and we recently had a breakthrough in our understanding of the underlying factors that perpetuate heightened brain sensitivity that leads to the perception chronic pain,” stated ICHNFM Director Dr Alex Vasquez, regarding his most recent publication last week in the top-tier peer-reviewed medical journal <i>Nature Reviews Rheumatology</i> (March 3, 2016) titled “Neuroinflammation in fibromyalgia and CRPS is multifactorial.” “We now appreciate that inflammation of the brain and spinal cord—neuroinflammation—is what underlies the phenomenon of central sensitization, which causes these patients to be exquisitely sensitive to benign sensations that are interpreted by the nervous system as pain, leading to disability and prescription drug dependency. These conditions cost the international community hundreds of millions of hours per year in needless suffering and lost productivity along with billions of dollars per year in direct medical expenses.”</p> <p>Migraine affects between 5-15% of the population internationally per year. “If you look only at the USA and the UK, you’re looking at a minimum of 20 million people and up to 60 million people who suffer from migraine, either periodically or several days per week on average.” Fibromyalgia, which is now appreciated as having several metabolic similarities with migraine, affects approximately 3% of the American and European population; while migraine causes pain and other symptoms such as nausea and sensitivity to light on a periodic basis of typically several days per month, the pain of fibromyalgia typically occurs on a daily (indeed hourly) basis. Thus, while the number of affected patients with fibromyalgia is fewer than with migraine, the number of “sick days” can actually be much higher with fibromyalgia, necessitating daily treatment and resulting in daily disability. These conditions commonly overlap, and approximately 50% of patients with fibromyalgia also have migraine headaches.</p> <p>“These patients enter a vicious cycle, a self-perpetuating circle that we call ‘the pain revolution’,” said Dr Vasquez, referencing his most recent book, titled <i>Pain Revolution for Migraine and Fibromyalgia</i>. “What we see in all of these patients is a vicious cycle of brain inflammation and mitochondrial dysfunction, and the combination of these two, along with other important factors such as nutritional deficiencies, leads to a phenomenon in the brain and spinal</p>

cord called 'central sensitization', wherein the nervous system becomes acutely sensitive to pain and other sensory stimuli." Vitamin D deficiency is well-known to cause bone pain, while it also promotes heightened pain sensitivity within the brain, making other pain conditions worse. Dysfunction of mitochondria, the intracellular organelles chiefly tasked with the production of energy in the form of ATP, simultaneously causes inflammation and is caused by inflammation, thereby creating a vicious cycle of inflammation and mitochondrial dysfunction. "When inflammation affects the brain, the result is altered mood and behavior, what is known as 'sickness behavior', and also heightened pain perception, which is known as 'central sensitization,'" says Dr Vasquez. "The worst-case scenario is the combination of inflammation with mitochondrial dysfunction; this combination is devastating for the brain, leading to hyperexcitation as well as, in more severe and prolonged cases, seizure and death of brain cells—neurodegeneration."

Dr Vasquez notes that treatments that improve mitochondrial function are uniquely safe and effective in the treatment of both migraine and fibromyalgia. "In the treatment of migraine, the focus is on the improvement of mitochondrial function, so that the cells can produce more energy while controlling inflammation and free-radical production. In the treatment of fibromyalgia, in addition to improving mitochondrial function, we also have to address any underlying infections and microbial imbalances, such as bacterial overgrowth in the small intestines, a form of 'dysbiosis', since several studies have shown that antibiotic treatment leads to alleviation of fibromyalgia, as well as migraine."

Dr Vasquez's views on mitochondrial dysfunction have been published in journals such as *Integrative Medicine* (2013) and *Alternative Therapies in Health and Medicine* (2014) as well as in his major textbooks, most recent of which is *Inflammation Mastery, 4th Edition* (2016). His work on microbial imbalances and dysbiosis has been published in *Nutritional Perspectives* (2006) and *International Journal of Human Nutrition and Functional Medicine* (2015). His work on vitamin D deficiency has been published in *Alternative Therapies in Health and Medicine* (2004), *Journal of Clinical Endocrinology and Metabolism* (2008), and *British Medical Journal* (2005) in addition to several other articles and books. "*Pain Revolution for Migraine and Fibromyalgia*" is an illustrated clinical monograph of 120 pages summarizing more than 600 research articles, in addition to providing access to video presentations that describe the conceptual framework and treatment approach.

About

International College of Human Nutrition and Functional Medicine (ICHNFM.ORG) is a group of expert-level clinicians, professors, authors and presenters located internationally and anchored to the main office in Barcelona, Spain. The group provides teaching, video presentations, clinical monographs, and textbooks for students and doctors. ICHNFM is supported by student customers of books, videos, and courses and by donations from the public via www.PayPal.com (account: admin@ichnfm.org) and GoFundMe.com/ICHNFM; the group is free of commercial influence and relies on sales of materials and donations by benefactors and the public. ICHNFM's Director, Dr Alex Vasquez has decades of academic and clinical experience and is the only clinician in the world with three doctorate degrees in three different health professions; Dr Vasquez has lectured internationally and has authored more than 20 books and more than 100 articles and letters in various medical publications.

Illustration 1 (optional)

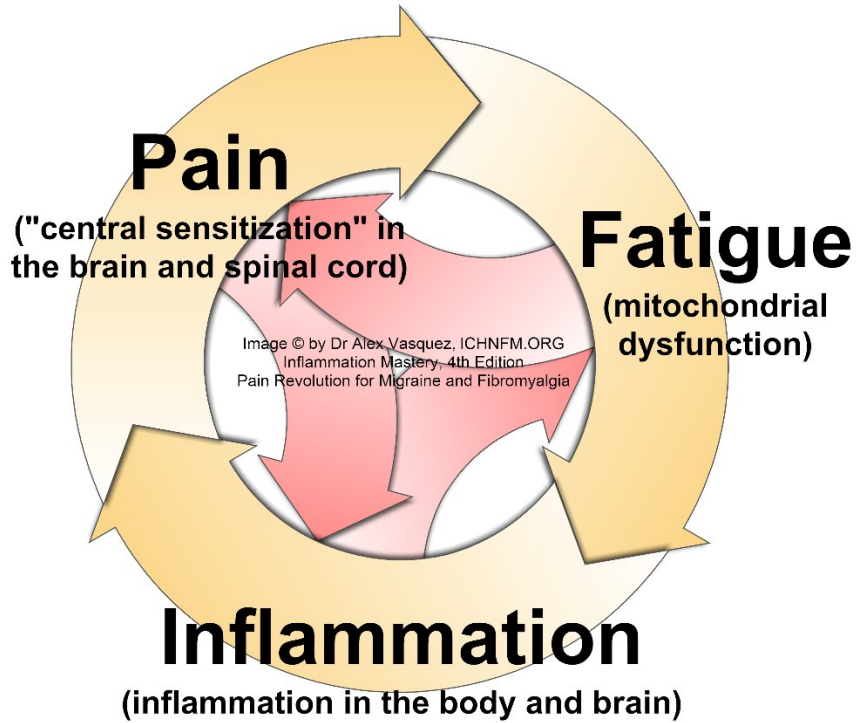


Illustration of Dr Vasquez’s “pain revolution”, the vicious cycles of pain, fatigue, and inflammation:

Inflammatory mediators such as cytokines and prostaglandins cross from the body into the brain, leading to depressed mood and increased sensitivity to pain (“central sensitization”); the resulting excessive excitability in the brain causes inflammation of the brain tissue, specifically the immune cells in the brain called microglia. With chronic pain, excessive stimulation of microglia and brain neurons leads to mitochondrial dysfunction (cellular fatigue) due to increased production of free radicals such as nitric oxide; mitochondrial dysfunction also leads back to sensitivity of neurons and microglia to stimuli, resulting in a vicious cycle of central pain and fatigue. Mitochondrial dysfunction leads to fatigue and cognitive difficulties due to lack of cellular energy while also promoting inflammation via excessive production of free radicals.

Short caption
(limit 80 words)

Illustration of Dr Vasquez’s “Pain Revolution”: Inflammatory mediators cross from the body into the brain, leading to depressed mood and increased sensitivity to pain (“central sensitization”); the resulting excessive excitability in the brain causes inflammation of the brain tissue. With chronic pain, excessive stimulation of the brain leads to mitochondrial dysfunction (cellular fatigue) due to increased production of free radicals. Mitochondrial dysfunction leads to fatigue and cognitive difficulties due to lack of cellular energy while also promoting additional inflammation.

Background information

Main new article: Vasquez A. Neuroinflammation in fibromyalgia and CRPS is multifactorial. *Nat Rev Rheumatol.* 2016 Mar 3. doi: 10.1038/nrrheum.2016.25. [Epub ahead of print]
<http://www.nature.com/nrrheum/journal/vaop/ncurrent/full/nrrheum.2016.25.html>

Population prevalence of migraine and fibromyalgia: USA population: 318.9 million (2014), UK population: 64.1 million (2013)

1. "Conclusion: The global prevalence of FM, in 26 studies worldwide, is 2.7 %." *Curr Pain Headache Rep* (2013) 17:356

2. "Fibromyalgia affects about 2–3% of adults worldwide..." D.A. Marcus, A. Deodhar, *Fibromyalgia* 2011, DOI 10.1007/978-1-4419-1609-9_2
3. "From this study, it is clear that migraine is also very common with a prevalence of 16% of the population surveyed." Rasmussen and others. Epidemiology of headache in a general population — a prevalence study. *J Clin Epidemiol* 1991;44:1147-1157

Referenced publications (books) by Dr Vasquez:

1. Inflammation Mastery, 4th Edition (2016); see hyperlinks: <http://www.ichnfm.org/#!blank/an1g3>
2. Pain Revolution for Migraine and Fibromyalgia: <http://www.amazon.com/dp/1522951008>
3. Fibromyalgia Solution: <http://www.amazon.com/dp/B01AS1ZKPA>
4. Migraine and Headache Revolution: <http://www.amazon.com/dp/B01AS15XZW>

Referenced publications (journal articles) by Dr Vasquez:

1. Mitochondrial Medicine Arrives to Prime Time in Clinical Care. *Altern Ther Health Med* 2014 <https://www.academia.edu/5636450/>
2. Mitochondrial Dysfunction and the Emerging Mitochondrial Medicine. *Integrative Medicine* 2013 <https://www.academia.edu/17119323/>
3. Translating Microbiome (Microbiota) and Dysbiosis Research into Clinical Practice: The 20-Year Development of a Structured Approach that Gives Actionable Form to Intellectual Concepts. *Int J Hum Nutr Funct Med* 2015 <https://www.academia.edu/12870819/>
4. The clinical importance of vitamin D (cholecalciferol): a paradigm shift with implications for all healthcare providers. *Altern Ther Health Med*. 2004 <https://www.academia.edu/18078062/>
5. The Microbiome Arrives to Prime Time in Primary Care Implications for the AntiDysbiotic Treatment of Fibromyalgia. *Nutr Perspect* 2015 <https://www.academia.edu/16360218/>
6. Treatment of Hypovitaminosis D in Infants and Toddlers. *Journal of Clinical Endocrinology and Metabolism* 2008 <http://press.endocrine.org/doi/full/10.1210/jc.2007-2790>
7. Calcium and vitamin D in preventing fractures: Data are not sufficient to show inefficacy. *BMJ: British Medical Journal* 2005 <https://www.academia.edu/3862834/>
8. Nutritional and Botanical Treatments Against "Silent Infections" and Gastrointestinal Dysbiosis, Commonly Overlooked Causes of Neuromusculoskeletal Inflammation and Chronic Health Problems. *Nutritional Perspectives* 2006 <https://www.academia.edu/3862817/>