

## EXECUTIVE SUMMARY

Chronic pain (CP) encounter visits account for one of the largest areas of health care utilization in primary health care with fibromyalgia syndrome as the most common chronic pain syndrome encountered in general medicine and rheumatology (Peterson, 2007). Numerous conditions account for chronic pain disorders and many have overlapping symptoms and treatments. Chronic pain can be difficult to manage and debilitating to those who suffer with a myriad of impacts to their daily life. The following report strives to orient the reader to common chronic pain disorders as well as provide an in-depth review of a specific CP syndrome, fibromyalgia.

*dmgroup* was commissioned by the Rasch Foundation to complete an Environmental Scan in the area of Chronic Pain with a specific focus on Fibromyalgia Syndrome. The purpose of the project was to provide the Rasch Foundation with the necessary background information and networking contacts to use in their endeavor to establish an endowment fund in the area of chronic pain. The goal of the scan is to use accessible and credible information to lead the Rasch Foundation in making pertinent decisions in providing resources to improve the burden of illness for people with chronic pain and specifically for those living with fibromyalgia syndrome.

The environmental scan consists of a review of the:

- I. Academic Literature
- II. Gray Literature
- III. Pertinent Organizations
- IV. Electronic Information
- V. Key Informant Interviews

Results of the scan clearly demonstrate the increasing need for allocated funds to support research along with additional resources in the area of chronic pain disorders. Global estimates of the prevalence of chronic pain, the lack of understanding of the causes, ability to diagnose, treat and manage various chronic pain disorders demonstrated more research and resources are required to address the pervasive and universal burden of illness caused by chronic pain. The final funding recommendations (Section 4) propose key areas to focus on along with providing some identified issues necessary to consider regarding the domain of chronic pain.

The report consists of:

1. A summary of an environmental scan inclusive of academic literature, gray literature, relevant organizations, electronic information sources and key informant interviews completed to date
2. A comprehensive resource of electronic sources and organizations relevant to chronic pain syndromes in general, specific sources for fibromyalgia along with brief summaries of other co-occurring syndromes of fibromyalgia such as irritable bowel syndrome, chronic fatigue syndrome, and systemic lupus erythematosus and other chronic pain disorders such as myofascial pain syndrome and chronic headaches
3. List of key informants and contact information
4. Recommendations for areas of research, identified areas of resource needs along with items to reflect on in the area of chronic pain while establishing an endowment fund

## **1.0 INTRODUCTION**

When constructing an understanding of chronic pain, it is important to focus on the overlapping nature of the presenting characteristics, symptomology, treatments and co-existing or co-morbid conditions among the numerous syndromes classified as Chronic Pain (CP). The spectrum of chronic pain disorders may be classified into distinct categories: 1) those that are systemic in nature in that they affect the whole body e.g., fibromyalgia and 2) regional chronic pain disorders such as irritable bowel syndrome (IBS) and migraine headaches (D. J Clauw and Crofford 2003).

### **1.1 Project Background**

The purpose of the report titled: Chronic Pain Environmental Scan: An In-Depth View of Fibromyalgia prepared for the Rasch Foundation by dmgroup is to provide significant information required to establish a formidable and successful endowment fund. The summary of the environmental scan presents highlights and pertinent information for use in making major strategic and informative decisions in establishing resource support within the area of chronic pain. The report is a summary on the 'state of affairs' of chronic pain with an in-depth focus on fibromyalgia from an epidemiological, clinical, research and resource perspective. This report in no way represents an exhaustive presentation of all information available regarding the various chronic pain syndromes that exist, nor is it a systematic literature review of fibromyalgia, rather selected information deemed important for the Rasch Foundation is included. A full methodological description and a detailed documentation of research processes are included for future reference.

In establishing the endowment fund in the area of chronic pain, the project to date consists of two distinct parts. One, the background information for the Rasch Foundation to use

in making crucial decisions regarding the endowment is a culmination of information from the academic literature, gray literature, pertinent organizations associated with chronic pain and numerous specific syndrome affiliates, funding and granting information along with other electronic information sources that all provided an overview of the environment where research, clinical activity, programming and information exists surrounding chronic pain.

Following the environmental scan summary, the second part of the report (Section 4.0) presents a discussion surrounding items for the Rasch Foundation to be aware of in the area of research for chronic pain, specific funding recommendations and the identification of where gaps are in resources all arising from the environmental scan and key informant interviews to date.

The project is organized by providing an overview of chronic pain followed by an in-depth discussion of one chronic pain syndrome, namely fibromyalgia.

The report consists of:

1. A summary of an environmental scan inclusive of academic literature, gray literature, relevant organizations, electronic information sources and key informant interviews completed to date
2. A comprehensive resource of electronic sources and organizations relevant to chronic pain syndromes in general along with certain specific sources for fibromyalgia and other chronic pain disorders such as myofascial pain, chronic fatigue syndrome, irritable bowel syndrome and systemic lupus erythematosus are provided.
3. List of key informants and contact information
4. Recommendations for areas of research, identified areas of resource needs along with items to reflect on in the area of chronic pain while establishing an endowment fund

## **1.2 State of Affairs: Chronic Pain**

Chronic pain (CP) is accounted for by a number of different syndromes and develops over time. CP is considered when pain persists three months or more. Specifically, fibromyalgia is a poorly-understood chronic pain syndrome, is characterized by widespread musculoskeletal

pain, nonrestorative sleep, fatigue and psychological distress with specific regions of localized tenderness. This syndrome is considered one of several 'central' pain syndromes that are common in the general population (Dadabhoy, D., and Daniel J. Clauw 2006). The etiology of many chronic pain disorders (CPD) remains unknown although researchers are beginning to understand for example, how the central nervous system and subsequent physiological augmentations play a role in pain experience. In addition, numerous triggers such as a trauma are known events associated with the development of fibromyalgia. In the case of other CPD, such as chronic fatigue syndrome (CFS) the role of viruses are currently under investigation. Estimates suggest that globally up to 20% of people suffer with chronic pain (H Breivik et al. 2005). Issues surrounding the role of genetics associated with CPD, complexities of diagnosis, challenges of complex treatment requirements and importantly increased quality of life require further investigation and understanding to reduce the morbidity and burden of illness individuals suffer from due to various chronic pain disorders.

## **2.0 METHODOLOGY**

### **2.1 Academic and Gray Literature Search: Databases**

The academic literature was retrieved from the following databases: PubMed, CINAL, EMABASE and Scholars Portal Research and numerous electronic sources of information. Identified keywords were used along with other parameters that included: years 2005-2009, English language and human subjects were the criteria for original searches.

### **2.2 Strategies and Keywords**

In order to research all necessary elements in the environmental scan, both lay and clinical terms associated with chronic pain along with specific searches by pain topic were completed e.g., fibromyalgia. Appendix A: Search Strategy: Keyword Summary details the

selected key words used in all searches that gathered information contained within this report. Initially, searches were performed using ‘chronic pain’ and were followed by secondary level terms such as ‘fibromyalgia’ and ‘chronic fatigue syndrome’. Subsequent to the broad searches, tertiary terms e.g., epidemiology, treatment and other pertinent domains were used to create the overall search strategy. The process continued until information was gathered using all the terms listed in Appendix A.

### **2.3 Websites and Organizations**

The electronic information reviewed for the environmental scan used several search engines: Google, Google Scholar, Mozilla Firefox and numerous RSS Feeds. The electronic references represent the vast portion of gray literature in the final report. For a complete list of organizations and electronic resources see Appendix B: Organizations and Electronic Resources: Information and Blogs.

### **2.4 Key Informants**

The compilation of Key Informants was executed by the epidemiologist commissioned for this project. The selection criteria was based on gathering a cross-section of identified champions with backgrounds in academic research, clinical experience from both primary health care and pain specialties. Of the key informant interviews completed to date, a semi-structured interview guide was used and interviewees were queried regarding research priorities and resource needs in the area of fibromyalgia. All interviews were completed by teleconference except for one in-person interview. The scope of the project was redefined after the first key informant interview was complete. As a result, the remaining key informants were also prompted to provide information and their experiences in the area of chronic pain in general. No other specific pain disorders were discussed in detail beyond fibromyalgia. The key informant

interview elements are incorporated in the final report. For a complete list of the selected key informants and the semi-structured interview guide see Appendix C: List of Key Informants and Appendix D: Key Informant Interview Guide.

Of all completed interviews, there were recurring themes surrounding the need for resources and research in the area of chronic pain and specifically fibromyalgia. Additionally, each interviewee (without prejudice) explicitly stated there was a crucial need for clinical education of health care professionals and patient education in the area of fibromyalgia. Several interviewees highlighted the relatively sparse amount of medical education dedicated to chronic pain. Furthermore, clinicians working in family medicine lack the necessary time required to provide patient education surrounding fibromyalgia despite that the level of information necessary for the successful management of fibromyalgia is extensive. Repeatedly, all key informants expressed the need for resources in the area of community and/or hospital based educational programs to directly support patients with fibromyalgia. It was noted that it is important to continue to work for better diagnostic tools and effective treatment modalities; many key informants stressed that until such goals are realized resources must continue to assist those already suffering from fibromyalgia (and other chronic pain syndromes). Resources dedicated to the current patient population are a priority along with continued efforts to understand definitive causes and develop treatments for chronic pain. “We cannot become over focused on answering burning questions such as what causes fibromyalgia and what are the most formidable treatments, as this will take time, we must also focus on those who are currently living with this elusive syndrome now and resources that will benefit this patient population in the shorter-term are also necessary” (Key informant).

### **3.0 FINDINGS FROM THE ENVIRONMENTAL SCAN**

## **3.1 Chronic Pain**

### **3.1.1 Overview**

Chronic pain develops over time and is considered when pain persists three months or more in duration. It is often assumed, incorrectly that the difference between the designation of either ‘acute’ or ‘chronic’ is the duration of pain. In fact, the true difference lies in whether or not physiological function returns to normal. In some cases, chronic pain can persist for different reasons beyond what originally created the chronic pain situation initially. In many instances, chronic pain syndromes are triggered by a trauma, injury or a disease. An issue, such as the extent of a trauma or augmentation in the body’s nervous system in response to the adversity creates the situation through which the body does not return to normal processes. Ultimately, physical and chemical changes take place within the body whereby chronic pain is experienced on a physical level even after the origin (if determined) of the pain is gone. In other words, the body does not have the ability to return to previous levels of homeostasis causing an on-going situation of constant or recurring chronic pain (Gatchel et al. 2007). Common chronic non-malignant pain is seen in conditions such as multiple sclerosis, chronic post-surgical pain, trigeminal neuralgia and fibromyalgia to name a few. Perhaps the most familiar chronic pain is musculoskeletal, which is sometimes referred to as mechanical chronic pain and includes osteoarthritis, rheumatoid arthritis, osteoporosis, different traumas, various injuries and other conditions. Common areas of the body affected by chronic pain are the back, neck, chest, ribs and knee. Malignant pain stemming from various forms of cancer is beyond the scope of this report, thus the following discussion regarding chronic pain refers to non-malignant conditions (See Appendix E for a comprehensive list of pain conditions).

Historically, the research and classification of chronic pain was focused on sensory characteristics. More recently, both researchers and clinicians have broadened the scope of chronic pain to include cognitive processes, affective influence, behavioural factors and the overriding influence of stress that affect homeostasis within the body. Estimates suggest that globally up to 20% of people suffer with chronic pain (H Breivik et al. 2005). In Canada, the National Population Survey (NPS) from 1994-95 estimated overall prevalence rates of chronic pain of 15% and 20% of the population for men and women respectively and also noted that the prevalence for chronic pain increased with age (with the exception of migraine headaches) (Tunks, Crook, and Weir 2008) . Similarly, a cross-sectional survey of 46,000 study participants conducted across 15 European countries found that 20% of the general population reports chronic pain, which is similar to other current global estimates (H. Breivik et al. 2006). The epidemiology of chronic pain produces wide estimates of prevalence in the population. Various reasons exist to explain the variations and are attributed to: the definition of chronic pain used in epidemiologic and other studies (e.g., general medical condition or pain disorder), the specific methodology used to identify cases, and the particular type of data used to produce the estimates such as self-report methods versus census data, to highlight a few.

In medicine, the biopsychological method to understanding disease involves an approach where biological, psychological and social factors all significantly impact disease. Despite numerous aspects of chronic pain disorders remaining elusive to researchers and clinicians, the biopsychological approach is well recognized as a way to provide a framework in both understanding and treating various chronic pain disorders. It is precisely the interaction of physical, emotional and social factors that can enable or exacerbate symptoms. Furthermore, the culmination of various factors may also contribute to the on-going nature of chronic pain

(Gatchel et al. 2007). Concerning the biological, recent research has examined the association between genetics and chronic pain. Simply put, an overexpression or absence of a gene can produce functional changes within the body. The components and activities within the nervous system involved in pain transmission can be affected by changes in gene expression or the augmentation of pain pathways (Gatchel et al. 2007), albeit no one gene is known to cause any specific CP disorder.

Changes to the pain processing pathways in the central nervous system or extensive tissue damage and scarring from injury can create chronic pain states that are difficult to diagnose, treat and subsequently manage. In some conditions, the severity of the pain is without explanation, in other words there is no identifiable trauma or injury to explain an individual's suffering. Furthermore, other variables such as the environment, physical and emotional stress levels and an individual's coping mechanisms can affect the perseverance and amount of pain experienced. Thus, chronic pain leads to a significant burden of illness for individuals, their families and society as a whole. Particular studies have demonstrated that over half the individuals suffering with chronic pain reported an interference with work, over 80% stated they also had a co-morbid condition and both the chronic pain and psychological distress accounted for increased health care utilization (Tunks et al. 2008).

The treatment and subsequent response by an individual to treatment of chronic pain is much different than acute pain. Determining both the severity of chronic pain and effective treatments are difficult to estimate. On the other hand, acute pain has an unambiguous cause such as a trauma or other pathology. The treatment of acute pain is informed by gold-standard protocols. Conversely, "[m]any chronic pain conditions lack a defined cause, are more difficult to diagnose, and are often associated with mood effects..." (Wallace and Daniel J Clauw 2005).

Chronic pain treatment often does not address the pathological cause and pain often continues or returns when treatment is finished.

The focus of treatment for chronic pain is: finding the shortest pathway to reducing pain, maintenance of pain reduction for the patient, cost effectiveness for the patient (as many treatments are third party providers), the improvement on quality of life, the improvement of physical function, the impact on anxiety and mood, reducing the effect of drug side effects and a consideration of the risk-benefit of treatment for pain reduction. The underlying cause of chronic pain should be treated where possible and oral medication is a cornerstone of chronic pain treatment. Importantly and emphasized by the World Health Organization (WHO) is that there must be an emphasis on individual plan of care and that treatment approaches for chronic pain must be combined with psychological support in order to realize efficacy in reducing pain.

Various studies conducted over the past 10 years cite that individuals from all geographical areas experience undue suffering with chronic pain even though various treatments exist to relieve such pain. Importantly, a majority of the older adult population and up to one in five adults suffer with various forms of chronic pain despite effective medications (H Breivik et al. 2005). One reason for this situation is the stigma that is associated with opioid use. Many issues such as prescription abuse, addiction problems and the scrutiny of clinicians prescribing opioid medication and particularly strong opioids has resulted in low(er) prescribing patterns despite empirical evidence documenting their efficacy in treating and managing long-term chronic pain (Castro-Lopez, J. et al. 2005). Clinicians have issues to address such as the dependency surrounding opioids use, tolerance development to medication and how to supervise the patient.

Research suggests that 40%–50% of chronic pain patients also suffer from depressive disorders (Banks & Kerns, 1996; Dersh, Gatchel, Mayer, Polatin, & Temple, 2006; Romano & Turner, 1985). Epidemiologic studies have shown a statistically significant association between chronic pain and depression even though the causal order is unknown. Specifically, work done on chronic musculoskeletal pain disorders suggests that the chronic pain in fact causes the depression (Marcus, 2009). Similarly, the episode of depression onset is often stated as occurring after the onset of a particular pain disorder. Conversely, research in other patient populations has shown that previous bouts of depression were found among patients before their chronic pain disorder manifested. Despite conflicting results and the unknown nature of the causal relations between depression and CP, it is widely accepted that conditions involving pain and psychological aspects have a reciprocal impact on illness and disease (Gatchel et al. 2007).

The diagnosis, treatment and management of chronic pain are complex. Individuals must understand their condition, know the impact of lifestyle choices and develop effective coping strategies; this requires education both for clinicians and patients alike, which we cannot assume either group has from the outset. The loss of productivity and daily activity due to chronic pain is extensive. An individual's constant management and living with chronic pain has a significant impact on one's quality of life. Common activities such as socializing, exercising, performing at work, daily activities and getting quality rest and sleep are impacted by chronic pain. Over time, this can lead to depression, feelings of social isolation and loss of personal self-esteem. Importantly, depression is the most frequent psychological reaction to chronic pain (Taylor 2007).

### **3.1.2 Outline of Specific Chronic Pain Disorders**

There are numerous chronic pain syndromes and the majority fall into the following categories (See Appendix E for a list of pain conditions). For illustrative purposes, three CPD: Myofascial Pain Syndrome (MPS), Neuropathic Pain (NP) and Chronic Headaches (CH) will be discussed in general to provide a macro-level orientation to different types of chronic pain. This is followed by a specific in-depth review of fibromyalgia in Section 3.3.

- 1) Myofascial Pain Syndrome
- 2) Musculoskeletal
- 3) Neuropathic Pain
- 4) Chronic Headaches
- 5) Fibromyalgia

### ***Myofascial Pain Syndrome (MPS)***

Myofascial pain syndrome (MPS) involves the skeletal muscles and specifically the connective tissue that covers the muscle. Specific to MPS is the presentation of referred pain, pain that occurs somewhere else in the body when particular trigger points have applied pressure. Such trigger points are nodules or taut bands of muscle that can often be felt through the skin. The pain of trigger points is associated with pain in the neck or jaw, lower back, pelvic region along with the legs and arms. The most frequently occurring symptoms are aching pain within the muscles that can either persist or get worse over time, muscle and joint stiffness, feeling of tension within specific muscles and pain interfering with restorative sleep. Most individuals with MPS can trace the origin to either an injury or an overuse of the muscles at some point. MPS often affects adults between 35 and 50 and women are more likely to develop MPS compared to men.

Specifically, myofascial pain syndrome (MPS) may be confused with fibromyalgia and often co-occurs and although MPS is very common among individuals with fibromyalgia; it is not clear if one in fact causes the other. The patient history in conjunction with the physical examination will allow the clinician to determine whether a patient has fibromyalgia, myofascial pain syndrome, or both. MPS is associated with pain from trigger points within certain muscles. Overall, the definitive differentiation between myofascial pain syndrome and fibromyalgia is made by physical examination. In some cases, MPS is treated with medication whereas other cases require a combination of physical therapy, trigger point injections and or massage therapy.

### ***Neuropathic Pain (NP)***

Neuropathic pain (NP) or nerve pain results from damage to the nervous system, including peripheral nerves, spinal cord and certain central nervous system (CNS) regions. Nearly half of all NP pain occurrences follow a trauma, inflammation or infection. NP is caused by some alteration in the structure within the nervous system versus non-neuropathic pain, which is generally associated with lesions as opposed to changes in structure. Specific examples of neuropathic pain include trigeminal neuralgia (TGN) and shingles. The clinical symptoms of neuropathic pain include spontaneous pain, allodynia (i.e., pain due to a stimulus that does not normally produce pain, such as soft touch), and hyperalgesia (i.e., an exaggerated response to a stimulus that is normally somewhat painful). The pain may be experienced in the local region of the nerve or in different places on both sides of the body (i.e., bilaterally). NP pain is described as burning, shooting, stabbing, piercing, and a feeling of electric shock (Gatchel et al. 2007).

A specific example of NP is a condition known as trigeminal neuralgia (TGN), a debilitating pain in the face that commonly starts without reason and begins on one side. The

pain is excruciating and described as an electric shock. The onset of TGN is most frequent among older adults but does not exclusively affect the older population. TGN may flare up at any time and triggers are numerous: chewing, touch, temperature, showering or even stepping outside in the wind. The pain may pass very quickly or last several minutes. As in most chronic pain disorders, treatment focuses on reducing symptoms and may involve prescribed anticonvulsants such as gabapentin. Trigeminal neuralgia is one of many syndromes associated with compression in the neurovascular system. An artery in the brain is compressing a cranial nerve. In situations where pharmacological agents do not provide sufficient pain relief, individuals with TGN can undergo surgery and have micorvascular decompression of the artery and the trigeminal nerve. Research has demonstrated that a vast majority of surgical patients report positive improvement in pain along with the disappearance of pain in many cases (Monstad, 2009).

### ***Chronic Headaches***

Chronic headaches may be further classified as chronic migraine, cluster, trauma, tension and analgesic overuse types of headaches. Classifications are largely based on location and duration. The duration of chronic head pain is an important diagnostic factor and headaches lasting more than 2 hours are most common among cluster, migraine and tension headaches. Additionally, the rate of recurrence, the severity and whether or not it is on one side of the body or both are all important characteristics when making a diagnosis. The causes of headaches are numerous and include other conditions such as glaucoma, temporomandibular joint dysfunction or trigeminal neuralgia. Additionally, some lifestyle factors play a role in trigger headaches such as alcohol, smoking and for some people certain foods such as chocolate. Finally, particular psychological causes such as depression, increased stress levels and sleep disturbances are

associated with headaches. In most cases, chronic headaches are treated with oral analgesics. However, if an individual experiences severe recurring episodes, a preventative pharmacological agent along with modifying certain lifestyle factors may be necessary (Schürks, Diener, and Goadsby 2008)(Marcus 2009)(May 2005).

## **3.2 A Focus on Fibromyalgia**

### **3.2.1 History of Fibromyalgia**

As far back as the early 1900's, what we now call fibromyalgia was described as a disorder of the musculoskeletal system thought primarily caused by characteristics of inflammation of fibrous tissue and was referred to as fibrotisis (Wood, Patrick 2008) (Chakrabarty and Zoorob 2007). In the 1970's, the term fibromyalgia was introduced and the condition became known as a pain disorder of widespread generalized pain and tenderness on palpation at specific points on the body (Podolecki, T., Podolecki, A., Hrycek, A. 2009).

### **3.2.2 What is Fibromyalgia?**

fibromyalgia is a poorly-understood chronic pain syndrome, is characterized by widespread musculoskeletal pain, nonrestorative sleep, fatigue and psychological distress with specific regions of localized tenderness. This syndrome is considered one of several 'central' pain syndromes that are common in the general population (Dadabhoy, D., and Daniel J. Clauw 2006). The constellation of symptoms of fibromyalgia all appear in the absence of other pathologies (Abeles, M., Solitar, B., Pillinger, MH. et al. 2008) (Aryeh, M., Pillinger, Micheal H., Solitar, Bruce M. and Micha Abeles 2007). fibromyalgia often occurs together with other chronic pain disorders and individuals with fibromyalgia are between 2 and 7 times more likely to have one or more of the following co-morbid conditions: depression, chronic fatigue

syndrome, irritable bowel syndrome, systemic lupus erythematosus, headache, anxiety and rheumatoid arthritis. (Weir, Peter T., Harlan, Gregory A., Nkoy, F. et al 2006).

### **3.2.3 Epidemiology**

Fibromyalgia is the most common chronic pain syndrome encountered in general medicine and rheumatology. Historically, the conceptualization of the syndrome and our understanding of the process of fibromyalgia have impacted how we define, identify and estimate the occurrence of fibromyalgia in the population (Perrot, S., Dickenson, AH., and Robert Bennett n.d.). Epidemiological studies in fibromyalgia are becoming more common; however, there are significant concerns surrounding diverse study populations, methodological approaches and the operationalization of outcome measures. Thus the epidemiology for fibromyalgia remains unclear in the literature. In some geographical regions across the globe, it is difficult to understand the scope of chronic pain conditions, including fibromyalgia because of differences among cultural norms surrounding chronic pain (Mease, P. 2005)(Bernard Bannwarth et al. 2009)(Mäkelä 1999).

Estimates are that fibromyalgia affects between 2% and 5% of the US, Canadian and UK populations, which in the US accounts for approximately 6% of patients attending general practice. Similarly, estimates of fibromyalgia are approximately 3% across Western European countries (France, Germany, Italy, Portugal and Spain). Overall, global estimates range from .05 to 5.0% of the general population, with very low estimates for China, Finland and Denmark (Branco et al. 2009). Fibromyalgia is most often diagnosed using the American College of Rheumatology (ACR) criteria (See Appendix F: Schematic ACR Trigger Points Fibromyalgia and Appendix G: ACR Classification of Fibromyalgia). Furthermore, women are between 3 and 9 times more often diagnosed with fibromyalgia than men with a ratio of 9:1 more females than

males. The age range of diagnosis is between 20 and 50 years of age. A substantial number of those diagnosed are 2 to 7 times more likely to have a co-morbid condition such as depression, chronic fatigue syndrome, irritable bowel syndrome and/or anxiety (Marcus 2009) (Weir, Peter T., Harlan, Gregory A., Nkoy, F. et al 2006). Despite fibromyalgia commonly occurring in young to middle age women, it is also observed in older adults, children including both young and adolescents along with cases among males albeit much less frequently (Chakrabarty and Zoorob 2007).

### **3.2.4 Symptomology**

The symptoms of fibromyalgia commonly vary in intensity throughout the day and are influenced by numerous factors such as weather, stress, level of exertion, exercise and various other environmental and personal characteristics. In terms of managing symptoms, they are often aggravated by unrelated illness. Additionally, symptoms can occur continuously or in stages over time. Many people with fibromyalgia experience symptoms that prevent them from performing normal activities such as driving a car or walking up stairs. The most frequently occurring symptom shared by an overwhelming majority of individuals with fibromyalgia is widespread body pain. Patients often describe the pain as an aching, stinging or burning. The discomfort is common in many areas of the body including the neck, jaw, back, chest and legs. Pain may be found in both the joints and nerves, specifically referred to as musculoskeletal and neuropathic pain respectively. For some patients, pain is also reported as localized. Widespread musculoskeletal pain, stiffness, fatigue, non-restorative sleep, cognitive dysfunction and diminished physical function are all recurring complaints. (Baldursdottir, S. 2008). It is not uncommon for fibromyalgia patients to experience muscle tension and spasms along with, allodynia and hyperalgesia (see page 13 of this report for definitions). Individuals with

fibromyalgia commonly state they have pervasive tenderness. Patients report abnormal soreness and tenderness throughout their body including thigh area, buttocks, elbows and knees along with the upper back, neck and shoulder areas. Additionally, patients also suffer from stiffness, which is common first thing in the morning and stiffness often improves but returns again upon arising after periods of inactivity (Arnold, Lesley M. 2000) .

Many patients experience chronic sleep disturbances where their inability to gain deep sleep; therefore, sleep is impaired (Perrot, S., Dickenson, AH., and Robert Bennett n.d.). This is particularly important among individuals, who suffer with fibromyalgia as it is precisely during deep sleep or stage 4 where muscles recover and the body restores itself. Patients describe difficulty going to sleep, staying asleep or feeling rested upon waking (Bernard Bannwarth et al. 2009). Both physically and psychologically, scientists demonstrate that physiological aspects of the nervous, cardiovascular and immune systems along with metabolic function all require proper sleep. Restorative sleep is necessary for cognitive processing, physical endurance and for proper healing of the physical body. There are two types of sleep, Rapid Eye Movement (REM) associated with psychological rest and recover and Non-Rapid Eye Movement (NREM), which is comprised of stages. Importantly, the delta or a deep stage 4 is crucial for physical recovery of the body. During stages of sleep, there is an increase in hormone releasing activity. The majority of individuals with fibromyalgia report poor sleep. As such levels of necessary hormones were found in lower amounts compared to their healthy counterparts (Millea and Holloway 2000). During the delta sleep stage, the growth hormone somatomedin C is released and is responsible for restoration of muscles. All adults have micro-trauma to their muscles from moving around during the day. Muscle is normally restored with the help of somatomedin C released in the proper amounts. Studies performed using sleep electroencephalograms show that up to 90% of

the individuals studied, who had fibromyalgia do not enter NREM sleep stages. Additionally, other research verifies that once an individual's sleep quality improves there is a decrease in the amount of pain and fatigue (Perrot, Dickenson, and Bennett 2008).

Numerous fibromyalgia patients report cognitive difficulties also referred to as 'brain fog' that is described as difficulty thinking, concentrating or problems with short term memory tasks. Brain fog is substantiated by abnormally slow brain wave patterns among individuals with fibromyalgia and commonly reported cognitive deficits. Many experts feel that 'brain fog' is directly related to the sleep disturbances experienced by those with fibromyalgia. Finally, some individuals also experience perceptual disturbances such as difficulty surrounding the ability to make figure/ground distinctions, loss of depth perception and an inability to focus vision and attention (Glabus, Simpson, and Patterson 2009). A number of neurological symptoms are associated with fibromyalgia such as poor balance, weakness, tingling, short-term memory impairment, confusion, directional disorientation and sensitivities. A number of patients state they experience sensitivity to particular stimuli such as temperature changes, humidity levels, medications or even certain foods or smells. Such sensitivity may cause a flare up in symptoms of fibromyalgia or a more general feeling of un-wellness. Furthermore, a feeling of swelling, numbness and/or tingling is common in the face, arms, hands, legs and feet.

Patients with chronic pain conditions including fibromyalgia often report psychological distress and mood disorders. Often patients suffer from depression and/or anxiety, night sweats, panic attacks and unaccountable irritability. Depression is found more often among people who also have conditions involving soft tissue damage without having typical articular disease e.g., rheumatoid arthritis. Thus, depression and anxiety is common but not absolute in patients with chronic pain syndromes such as fibromyalgia (Nampiaparampil and Shmerling 2004). Along

with psychological distress there exists severe physical fatigue. Fibromyalgia is characteristic of mild to severe fatigue and in many instances, patients with fibromyalgia also fit the diagnostic criteria for chronic fatigue syndrome.

Researchers have found that people with fibromyalgia either tend to run at a slightly higher than normal level of stress or may take a longer time to recover in stressful responses. Reacting and recovering from the human stress response involves the specific part of the central nervous system known as the autonomic nervous system (ANS) (Martinez-Lavin, M. 2007) . The ANS regulates heart rate, breathing, blood pressure and digestion, well known for the ‘flight or fight’ reaction. During the stress response adrenaline and cortisol neurochemicals cause increased heart rate, fast and shallow breathing, increased thermoregulation and decreased gastrointestinal reactions to name a few. Both acute onset and chronic stress influence how pain signals are processed in the brain which can lead to increased sensitivity mediating symptoms of fibromyalgia. Finally, other symptoms include: headaches, dermatological conditions, myoclonic twitches, irritable bowels, bladder irritation, pelvic pain, hypoglycemia, bruxism (teeth grinding), menstrual difficulties, loss of libido and impotence. Overall, the symptoms of fibromyalgia are complex and most frequently, patients do not experience all of the symptoms associated with the disorder.

### **3.2.5 Triggers**

It is paramount to remember that in trying to understand the presentation and etiology of disease concerning fibromyalgia that to date, no specific pathology has been identified that explains individual patient symptoms. Notably, patients consistently report pain and typically show a variety of other symptoms. Laboratory tests and other diagnostic imaging investigations are regularly unsuccessful in demonstrating specific abnormalities.

Given the cause(s) of fibromyalgia simply elude researchers and clinicians, for clarity in this report, the term triggers is used to denote an event, which when it takes place an individual then develops fibromyalgia. Given there is no empirical, thus conclusive evidence of the cause(s) of fibromyalgia, the discussion focuses on the unfolding of events from a trigger through to the development of fibromyalgia without any assumption to the causal factors of this syndrome. fibromyalgia is a complex culmination of various symptoms and is often precipitated by a trauma, which can be physical, psychological or emotional. Additionally, a trigger can also be an illness such as a viral infection. Research to date has demonstrated that there is no strong correlation between any *specific* event or illness and the development of fibromyalgia. However, recent developments in research and diagnostic processes have led to some understanding of the role of central nervous system (CNS) and the development of fibromyalgia. Recently, research has focused on examining various neuroendocrine, autonomic nervous system and brain activity processes, which is beginning to show neurochemical abnormalities in patients with fibromyalgia (Wood, Patrick 2008).

External factors are currently viewed as possible triggers albeit there is little understanding of exactly how or why a trigger results in the onset of fibromyalgia. The question is why do some triggers result in the development of fibromyalgia in some people and not in others? It is unclear if characteristics create a predisposition to the condition whereby a trigger results in the manifestation of the syndrome. A major risk factor for developing fibromyalgia is having another relative in the family who has the condition. The clinical observation of familial history of fibromyalgia suggests there may be a certain genetic component responsible for fibromyalgia. Specifically, there is evidence that polymorphisms of genes in the serotonergic,

dopaminergic and catecholaminergic systems may be involved (Buskila, D., and Piercarlo Sarzi-Puttini 2006). However, we do not understand what ‘turns on or off’ particular genetic influences.

In the fall of 2009, the Whittemore Peterson Institute, who are focused on neuro-immune diseases reported higher than normal levels of retroviral infection XMRV in blood samples from individuals who had a diagnosis of chronic fatigue syndrome. It is well known how virus infections play a role in inflammatory diseases and specifically the XMRV has nearly exclusively been studied in prostate cancer. This work may prove significant in advancing the understanding of how a virus may either trigger or cause a chronic pain syndrome such as fibromyalgia or CFS (Lombardi et al. 2009). However, the research is in the early stages and importantly such results need to be replicated in much larger study populations and among diverse groups. In addition, there are issues surrounding the accuracy of diagnoses in both fibromyalgia and CFS especially as many patients with CFS also meet the diagnostic criteria for fibromyalgia and vice versa. The potential for misdiagnosis among fibromyalgia can be quite prevalent and in this particular piece of research considering the latent impact of confounding misdiagnosis must be addressed in future studies.

Wallace and Clauw (2005) provide a hypothetical model of the components leading up to the onset of fibromyalgia. An individual often has a predisposition, which in the case of fibromyalgia can be a deficiency in a biogenic amine (e.g., norepinephrine, histamine or serotonin) or a defective protein. An individual then experiences an event (trigger) such as a physical trauma or an illness that produces a neurochemical change in the central nervous system (Wallace and Daniel J Clauw 2005). The central nervous system has a role in causing a sensitization to external stimuli and the resulting central pain processing that takes place. There are a number of neurotransmitter and neuropeptide differences found within the cerebrospinal

fluids of individuals with fibromyalgia (Valença et al. 2009) (See Appendix H: Neurochemicals). Furthermore, it is well documented that patients with fibromyalgia can feel pain in the body in a more extreme way, hyperalgesia compared to individuals without fibromyalgia. Hypotheses suggest that there is a different process in the way in which the body of a fibromyalgia patient actually processes pain compared to otherwise healthy individuals. Additionally, pain may be experienced by individuals with fibromyalgia from an external stimulus that would not cause pain under normal circumstances, allodynia (Mease, P. 2005). In clinical terms, changes such as aberrant pain processing, an inhibitory process in pain pathways and the alteration of neurotransmitters all take place within the central nervous systems and are thought to be related to the development of fibromyalgia (Podolecki, T., Podolecki, A., Hrycek, A. 2009)(Aryeh, M., Pillinger, Micheal H., Solitar, Bruce M. and Micha Abeles 2007)(Krypel, Linda L. 2009).

Research into diagnostic imagery and chronic pain has focused on the augmentation of the central pain processing system in the CNS. For example, in Germany a neuroimaging study showed that a structural change in the pain systems is a precondition for the central pain sensitization of fibromyalgia (Burgmer et al. 2009). Other research suggests differences in pain processing in individuals with fibromyalgia compared to healthy controls included the difference in opioid receptors, elevated levels of substance P in the cerebrospinal fluid and a difference in the activation of areas in the brain responsible for pain processing. Such results are important as opioid receptors are responsible for binding with opiates that are painkillers contained in many pharmacological agents used to treat pain. Importantly, having a reduced amount of opiate receptors (as a result from upregulation disturbances) in the central nervous system assists in understanding why individuals with fibromyalgia may have difficulty getting pain relief from standard pharmacological agents for treatment in chronic pain.

Substance P, which is three times beyond normal levels in patients with fibromyalgia, mediates pain threshold, thus determines when a stimuli will become painful. Substance P provides a possible explanation as to why individuals with fibromyalgia have such sensitivity to external stimuli, along with very low pain tolerance or feel pain in situations that would not normally produce a pain response in otherwise healthy individuals. Brain activity research shows increased blood flow to particular areas of the brain among fibromyalgia patients and also demonstrates brain activity is higher in areas that deal specifically with pain. Pain signals are significantly increased, which may result in an abnormal process surrounding an abundance of pain messages in the CNS.

Three other neurochemicals are being investigated for the role in fibromyalgia, serotonin, dopamine and cortisol, which are found in abnormally low levels in fibromyalgia patients or are not used effectively in the brain compared to healthy counterparts. These hormones each play an important part in controlling many of the processes in the body. Serotonin, which is found in lower levels, is vital to a person's mood, sleep and pain response whereas dopamine, which researchers speculate is not used efficiently in fibromyalgia patients is thought to affect pain processing and cortisol, found in lower than normal levels may result from an alteration in the pituitary-adrenal area of the body (Millea and Holloway 2000). Other research has examined the effect of low dopamine and found that the density of gray matter in the brain was augmented (Glabus et al. 2009).

The culmination of a traumatic event and subsequent stress responses can create the environment for the onset of fibromyalgia. Once fibromyalgia has occurred in the body, the hallmark is then a change or augmentation of the central pain process in the central nervous system (Albin, JN., Neumann, L., and Dan Buskila 2008)(Dadabhoy, D., and Daniel J. Clauw

2006). Additionally, both the development and symptoms of fibromyalgia are overlapping with other diseases for example, Lyme disease and particular triggers such as vaccinations. It is not yet fully understood how infections or other conditions act as triggers for the development of fibromyalgia, but it is becoming clearer that such occurrences are significantly contributing to the onset of fibromyalgia (Albin, JN., Shoenfeld, Y., Bushila, D. 2006). (Albin, JN., Shoenfeld, Y., Bushila, D. 2006)

### **3.2.6 Burden of Illness**

Overall, fibromyalgia is a challenging chronic pain syndrome that is difficult to manage and has significant impact across many areas of an individual's life. Research comparing the overall health measures such as general health, social functioning and emotional problems found that individuals with fibromyalgia, by comparison to both the general population and those with other specific pain conditions, were significantly more impaired across 8 health status areas (Hoffman, DL. and EM. Dukes 2008). Furthermore, a study inclusive of several countries, specifically designed to assess the burden of disease associated with fibromyalgia found significant economic impact to individuals. At least half of the patients surveyed had lost work time in the past year due to their condition, while 20% reported they were unable to work and 40% of patients reported they had spent 'substantial' money on out-of-pocket expenses for medical services related to fibromyalgia. Beyond the physical health challenges, the economic burden associated with fibromyalgia can negatively impact access to optimal care and increase personal stress all adding to the burden of illness (Borigini 2009).

### **3.2.7 Diagnosis**

As with other chronic pain disorders, diagnosis of fibromyalgia is established by the physician on the basis of the patient history, clinical observations and the physical exam.

Importantly, fibromyalgia is a syndrome with a number of presenting symptoms that exist on a continuum; therefore, it is not uncommon for a clinician to require patient observation over time in order to firmly establish a proper diagnosis. Fibromyalgia should be considered in any patient with widespread pain that is unexplained by a clear anatomical pathology. Specific to fibromyalgia is that the diagnosis depends on findings from the history and physical examination rather than on diagnostic testing. The criteria for classifying patients with fibromyalgia were established in 1990 but do not absolutely exclude patients who do not meet the criteria (Millea and Holloway 2000). A patient's history is important given our understanding of possible triggers such as a trauma along with the impact of stress, medical illness, sleep disturbances or abnormalities, depression and anxiety. Furthermore, the tendency of fibromyalgia to run in families along with the increased likelihood of fibromyalgia and high prevalence of the presence of co-morbid conditions are all indicative of the necessity of a full and thorough patient history (Chakrabarty and Zoorob 2007).

Despite having no specific test or diagnostic procedure to definitively conclude an individual has fibromyalgia, the physical exam allows a clinician to conclude confidently that the patient exhibits significant signs of the syndrome. The physical exam consists of applying pressure to certain places on the body to detect the level of pain or tenderness. The American College of Rheumatology (ACR) has selected 18 sites used as indicators for specific association with fibromyalgia (See Appendix F and Appendix G). The classification of fibromyalgia requires that there must be tenderness on palpation at 11 of the 18 sites, a history of pain and other clinical manifestations for a minimum of 3 months and clinicians must look for widespread pain inclusive of both the upper and lower body along with pain on both sides or bilateral body pain. Skill in palpation of tender points is critical to establishing a diagnosis of fibromyalgia. Physical

findings to consider during the physical exam are the soft tissues include tender points, changes in skin texture, increased resting muscle tension and changes in the texture of the subcutaneous tissue.

Some individuals with fibromyalgia will not meet this classification and tender points may change location and intensity of tenderness or pain levels over time. Importantly, all indications of pain and tenderness must be in the absence of inflammatory processes such as redness, swelling or heat in the joints and soft tissues of the body (Millea and Holloway 2000). Importantly, patients who do not meet the ACR criteria require a complete workup including laboratory tests to ensure accurate diagnosis as presenting symptoms can overlap with other conditions so it is paramount to rule out other conditions.

### **3.3.8 Co-Morbid/Co-Occurring Conditions**

Misdiagnosis is always a pertinent point to remember in the area of fibromyalgia as there is no gold standard, thus ruling out other joint and muscle pathologies requires vigilance on the part of the clinician to make an accurate diagnosis (Perot 2008) (Nampiarampil and Shmerling 2004). Myofascial pain syndrome, chronic fatigue syndrome, hypothyroidism and other less commonly occurring rheumatic disorders may either be present with fibromyalgia or responsible for presenting symptoms (Chakrabarty and Zoorob 2007). An individual's presenting symptoms are characteristic of many other co-morbid conditions and are reported in a highly subjective manner, which in some instances makes it substantially difficult to differentiate between fibromyalgia and is a particular challenge to providing an accurate diagnosis.

A barrier to accurate diagnosing of fibromyalgia is the number of symptoms than can mimic other diseases. For example, individuals with iron deficiency exhibit pain, muscular aches and checking serum ferritin levels will differentiate from fibromyalgia, when serum iron levels

increase general pain improves. Additionally, people with low Vitamin D levels (hypovitaminosis D) will also experience widespread pain. Again this is addressed through Vitamin D supplementation and addressing any absorption issues, which once completed will improve pain levels.

Furthermore, there numerous other chronic syndromes that may co-exist with fibromyalgia syndrome.

- Chronic fatigue syndrome
- Depression
- Endometriosis
- Headaches
- Irritable bowel syndrome (IBS)
- Lupus
- Osteoarthritis
- Post-traumatic stress disorder
- Restless legs syndrome
- Rheumatoid arthritis
- TMJ

### ***Chronic Fatigue Syndrome***

The term chronic fatigue syndrome (CFS) is also used interchangeably with myalgic encephalomyelitis (ME). Researchers and clinicians either use the term interchangeably whereas others feel one syndrome is a sub-type of the other. The syndrome is characterized by extreme exhaustion of either gradual or rapid onset that has no alternative explanation and lasts for a minimum of 6 months. In other words, it cannot be attributed to physical exertion, any physical pathology or disease process and it not relieved through rest and/or sleep. Epidemiological estimates suggest the prevalence of CFS is between .2% and 2% in the general population. The most common age of onset is between 40 and 50 years; however, CFS has been noted in both children and teenagers. Women suffer from CFS more often than men at a rate of 2 to 3 times

higher (Wyller 2007) . The exact cause of CFS remains unknown; however, recent research from the Whittemore Institute, examining the role of viruses in the precipitation of CFS holds promising information of not only explaining a cause for CFS but may lead to primary prevention protocols; however it is important to note that it is not yet empirically proven that XMRV causes CFS. The challenge for physicians is that many patients who meet the diagnostic criteria of CFS also meet the criteria set for fibromyalgia and vice versa. There is no diagnostic tool to differentiate the two syndromes. To further complicate matters, CFS symptoms also overlap with Lyme disease, infectious mononucleosis, hypothyroidism and Epstein - Barr virus (EBV).

At this time, there are no known diagnostics tests for CFS and treatment options include focusing on modifiable lifestyle factors such as diet, exercise and stress management along with some alternative or complementary therapies such as acupuncture and massage therapy. Additionally, some pharmacological agents such as antidepressants, anti-inflammatory medication and basic analgesics have shown some benefit to patients managing their CFS symptoms and improving their quality of life (van't Leven et al. 2009).

### ***Irritable Bowel Syndrome***

Irritable Bowel Syndrome (IBS) affects between 10% and 20% of the population in the United States and Europe, more often females than males along and can affect all ages (Longstreth et al. 2006). IBS is classified as a chronic disorder where individuals suffer with mild to severe abdominal pain in conjunction with problems associated with bowel function. Other symptoms include constipation, diarrhea, nausea, vomiting and bloating. The exact cause of IBS is unknown but can be initiated by emotional characteristics, a bacterial or parasitic event, certain foods and in some cases inflammatory bowel disease (Kellow et al. 2006). IBS is treated

by focusing on the predominated symptom and frequently involves both pharmacological agents such as tricyclic antidepressants and psychological treatments to manage both anxiety and depression, which may exacerbate symptoms. It is important to rule out differential diagnoses such as inflammatory bowel disease or celiac disease through a combination of laboratory testing and physical examination (R Spiller et al. 2007).

### ***Systemic Lupus Erythematosus***

Lastly, systemic lupus erythematosus (SLE) can also exist with fibromyalgia. SLE is the acronym given to systemic lupus erythematosus, an autoimmune disorder which presents as a skin rash or arthritis. The most commonly occurring symptoms are extreme fatigue, rash and musculoskeletal symptoms. SLE can be triggered by an infection. There are various types of lupus and SLE is the most the form people are familiar with among this group of autoimmune disorders. SLE manifests when the body's own immune system attacks its own healthy cells as if they were a foreign invader, producing autoantibodies of which the most common is antinuclear antibody (ANA). The long term effects of SLE include damage to major organ systems such as the kidney, heart, lungs and brain. Although it is found among all populations in the world, there is a higher prevalence in those of Asian and African descent. SLE is more common among women and frequently occurs between ages of 15 to 45. (Bertsias et al. 2008). The symptomology of SLE can vary over time with periods of remission and commonly occurring symptoms are: skin rash, fever, joint problems, fatigue (most frequently occurring), cognitive difficulties, swollen glands, chest pain, seizures and depression. Despite the definitive cause of SLE remaining unknown, it is conceived of as multi-factorial in nature; SLE tends to run in families thus, either a genetic cause or predisposition is a common hypothesis.

There is no cure for SLE; however, in recent years, earlier diagnosis, pharmacological intervention and self-management have reduced the mortality and morbidity of this disorder notwithstanding the serious complications that can arise from SLE such as cardiac disease (R. Cervera 2006). Furthermore, the diagnostic investigation must consist of ruling out other diseases such as rheumatoid arthritis, systemic sclerosis, Lyme disease along with other infectious diseases such as CMV and infectious mononucleosis to highlight a few.

Most individuals with SLE are treated by a multidisciplinary team of health care professionals made up of a family physician, nurse, rheumatologist, social worker, dermatologist, nephrologists and neurologist. Various pharmacological agents employed to relieve the symptoms of SLE and the more common approaches include: NSAID's, antirheumatic drugs, corticosteroids and immunosuppressants. New and emerging treatments for SLE are incorporating the use of antibodies (Vigna-Perez et al. 2006).

### **3.3.9 Treatment**

No single drug or group of pharmacologic agents has shown efficacy in treating fibromyalgia patients as a whole (Abeles, M., Solitar, B., Pillinger, MH. et al. 2008). As with many other soft tissue and rheumatological organic disorders, there is no cure for fibromyalgia, but some treatment options are available. Often individuals try many different treatment approaches from traditional allopathic treatments, complementary and alternative therapies in order to effectively manage fibromyalgia. Fibromyalgia is a syndrome that may dramatically change from one day to the next and flares up under a variety of circumstances. Goals of treatment are to control pain, thereby improving well-being, and daily functioning (Peterson, EL. 2007). Treatment is focused on reducing pain and alleviating other non-pain symptoms using pharmacological agents, cognitive behavioural therapy, exercise, self-management strategies and

education along with a variety of other treatment modalities (Carville, S.F., Arendt-Nielsen, S., Biddal, H. et al. 2008).

### **3.3.9.1 Pharmacological Treatment (Antidepressants, Pain Killers, Anticonvulsants, Muscle Relaxants and Sleep Modifiers)**

Neurotransmitters, for example serotonin, are chemicals that carry messages to and from the brain such as pain messages. Researchers believe that serotonin is either in lower than normal amounts or is not being used properly by the body in people with fibromyalgia. It is thought that low levels of neurotransmitters may be a factor in fibromyalgia and that raising the level of neurotransmitters reduces pain by facilitating the effective use of serotonin (Arnold, Lesley M. 2000). Typically the antidepressants used in the treatment of fibromyalgia are: tricyclic antidepressants, serotonin-norepinephrine reuptake inhibitors and selective serotonin reuptake inhibitors (SSRI's) (See Appendix I for common pharmacological treatments, which may or may not be used in conjunction with alternative therapies). The presentation and severity of an individual's symptoms along with their tolerance to the side effects dictates which specific antidepressant medication is chosen and when to use antidepressants in order to improve sleep and overall mood along with decreasing pain. Some individuals receive traditional pain killers: paracetamol, codeine, tramadol which have shown effectiveness in treating fibromyalgia. More severe pain can be treated with chronic opioid analgesic therapy (COAT) that uses a combination of narcotics with acetaminophen. This particular treatment modality is reserved for patients, who do not respond to other methods of pain management or have more severe pain. Using narcotic medication over the long-term has inherent risks such as dependency; however, for more severe pain it may be necessary. The literature surrounding effective pain management for chronic pain syndromes in general illustrates that various opioid treatments are available; however, clinicians

are often hesitant to prescribe these pharmacologic agents because of possible dependency issues surrounding prescribing and follow-up patterns along with potential abuse patterns.

Anticonvulsant medication is proving effective for alleviating anxiety, depression and sleeping disturbances. Pregabalin (known as Lyrica) is an anti-seizure medicine that has been found to be effective in treating several fibromyalgia symptoms. Anticonvulsants are increasingly used to treat chronic pain such as migraines and neuropathy. Additionally, anticonvulsants can also relieve fatigue, cognitive dysfunction, irritable bowel syndrome, bladder problems, restless legs and multiple chemical sensitivity. Known side effects are earaches, dizziness and vision impairment; therefore, some people tolerate anticonvulsant medication better than others. The broad spectrum of symptoms anticonvulsants are able to treat is promising in the area of chronic pain treatment. Finally, concerning pharmacological agents, muscle relaxants directly target stiffness and spasms which also often improve sleep disturbances such as restless leg syndrome and pain. When more specific sleep disturbances require treatment, sleep modifiers such as herbal supplements or sedatives are used. As with narcotic medication for pain, sedatives for sleep problems must be used carefully as there is an inherent risk of dependency.

### **3.3.9.2 Non-Pharmacological Treatment: Complementary and Alternative Therapies**

Complementary and alternative therapies may also relieve fibromyalgia symptoms and primary types of these therapies include but are not limited to:

- Cognitive Behaviour Therapy (CBT)
- Physical Therapy
- Occupational Therapy
- Exercise
- Massage Therapy
- Aquatic Therapy
- Other Complimentary and Alternative Therapies

A specific type of CBT, biofeedback is a series of feedback cues, both visual and auditory, used to train the mind and body to control and normalize the way pain is interpreted and is used in combination with various relaxation techniques. The goal of CBT is to ‘train’ the brain so that both the perception and processing of pain is altered in a positive way to assist the patient in pain management. Other specific types of physical therapies are also used to treat fibromyalgia. In general, the goal of physical therapy is to maximize function, reduce impairment and limit disability in patients. Physical therapists use manipulation, stretching, posture training and functional activity. For people with chronic pain conditions and certainly fibromyalgia, it can be difficult to find the right balance between exercising enough for the benefits without over-exerting, which can cause a worsening of symptoms. A physical therapist can help establish the correct balance to an exercise program while also providing a variety of treatments such as heat or ultrasound therapy between exercise sessions that can assist patients managing their fibromyalgia symptoms.

Additionally, receiving occupational therapy helps people regain and acquire skills important to maintaining their independence. Individuals with fibromyalgia experience challenges both physically and mentally. The widespread chronic pain and often accompanying depression can make it difficult for fibromyalgia patients to complete simple daily tasks. The occupational therapist can assist in promoting independence and daily activity improvement by examining the environment, supporting caregivers and investigate what areas of the patient’s daily life are either contributing to their healing or causing further suffering. Each occupational therapy program is customized specifically for the patient by considering elements of their medical history, scope of their syndrome and the environment the patient lives and/or works in to systematically address issues that can reduce pain and add to an overall quality of life.

An important aspect of treatment for fibromyalgia is exercise. Aerobic and strength-training activities along with other forms of exercise have been associated with significant improvements in pain, tender points and sleeping patterns in individuals with fibromyalgia. For example, Yoga is an exercise choice that assists in improving breathing techniques, increasing flexibility and reducing stress all geared toward increasing the ability to self-manage and physical abilities to reduce symptoms of fibromyalgia. Unfortunately, adherence in exercise program remains low. A recent Cochrane review in 2008 of exercise in the treatment of fibromyalgia showed that research done to date demonstrates that exercise training can include aerobics, strength training and stretching. Specifically, moderate intensity aerobic training for a minimum of 12 weeks showed some overall improvement to well-being and physical function, whereas there was no difference in pain or tender points. Whether or not exercise can improve other symptoms such as difficulty sleeping, fatigue, stiffness and depression is not well understood.

There are different types of massage therapy approaches from a relaxing massage that helps rejuvenate a person to a pressure point therapy where relief is found by applying pressure on certain locations. Massage therapy is known to lower blood pressure and help to increase endorphins, which are natural pain killers reducing the pain felt by the individual. A specific massage known as myofascial release is recommended for fibromyalgia patients, which helps in subsiding severe pain along with restoring motion. Massage also aids in detoxifying the entire system. Furthermore, massage therapy increases blood flow to tissues and is described as soothing muscles along with an ability to reduce stress. Commonly, individuals with fibromyalgia who have massage therapy for treatment of their symptoms require a lighter touch with very gentle pressure. There is insufficient research into the efficacy of massage therapy in

the treatment of chronic pain, it is commonly studied in conjunction with other therapies, and thus it is difficult to assess the impact in treating fibromyalgia. Finally, aquatic therapy can prove quite beneficial to individuals with chronic pain and specifically fibromyalgia. The nature of chronic pain disorders in general makes adhering to an exercise program challenging for many people. An advantage to aquatic therapy is the buoyancy provided by the water. The buoyancy assists the patient in supporting their body weight by decreasing the amount of weight on particular joints, thereby, decreasing joint stress. It is easier and less painful to perform exercises and in some instances allowing individuals to either simply complete the exercises or exercise more frequently.

### **3.3.9.3 Other Complementary and Alternative Therapies**

Across a variety of studies, acupuncture has shown effectiveness in decreasing tender point pain. Treatments vary from weekly to intermittent treatments over months. More vigorous research using larger study populations is required to better understand the true efficacy of acupuncture as a treatment for chronic pain and specifically fibromyalgia. Hypnosis is derived from using altered state of consciousness to provide suggestive messages. For chronic pain, messaging is directed at training the patient to alter their pain perception and better manage their chronic pain. Breathing techniques are aimed at relaxing the body and taking the mind off pain and reducing stress. Slow, steady relaxation breathing can relax tense muscles and allows a patient to create a calmer environment and is an important skill for the self-management of chronic pain. Homeopathy uses a non-toxic approach to promote physical healing. The main tenant of homeopathic medicine is the 'law of similar' used to create a natural healing response of the body to cause a healing response. A particular substance is given in a very dilute concentration that ultimately causes a disease symptom which then causes the body to provide a

natural healing response (See Appendix J: Common Supplements for Fibromyalgia and Chronic Fatigue Syndrome, which may or may not be used in conjunction with pharmacological agents).

An important aspect of managing fibromyalgia is learning to manage stress levels. Simply managing chronic pain over time in conjunction with events over the life course contributes to overall stress level for someone with fibromyalgia. Stress can be managed with or without medication; various complementary and alternative therapies are effective in reducing stress. Therefore individuals with fibromyalgia require access and support to various programs and learning opportunities to incorporate stress management techniques into their treatment regimes. A significant area for individuals with fibromyalgia to focus on is their self-management strategies. Given there is no cure, managing the syndrome must incorporate learning to moderate activity at optimal levels, processes in handling stress effectively and dedicated to managing pain. For many having social networks and social support such as support group can provide a necessary source of information and support.

### **3.3.10 Conclusion to A Focus on Fibromyalgia**

The symptoms of fibromyalgia tend to vary greatly therefore, it is quite common for a patient to receive treatment from a variety of several different healthcare professionals (See Appendix K for a list of multidisciplinary health care team members). A transdisciplinary health care team consisting of the family physician, nurse practitioner, rheumatologists and a neurologist is best suited for optimal care and management. For this communication among clinicians, having the patient at the ‘centre’ of the care model, an understanding of a shared care plan inclusive of the entire clinical team is paramount. The family physician is ideally suited to treat fibromyalgia because the management of this syndrome requires a longitudinal relationship, openness to various treatment modalities and an overall awareness of the interactions of the

environment, the patient's health literacy and resources available to the patient (Millea and Holloway 2000). Additionally, nurse practitioners are also in a unique position to help identify patients and provide the patient-centered, one on one care that is required to properly diagnose and manage fibromyalgia. The research and development of treatments for fibromyalgia is constantly expanding and changing. Furthermore, tremendous time and knowledge are required to properly diagnose fibromyalgia including understanding the combination of the patient history, physical examination, laboratory evaluations and ruling out other causes of symptoms often confused with fibromyalgia. The family physician and entire health care team requires ongoing clinical education and access to up to date clinical information to continue to add to their understanding of symptomology and recommended treatments (Peterson, EL. 2007).

Fibromyalgia has changed in its clinical perception over time. Once thought of as purely a psychiatric progression causing symptoms to a condition comprised of muscle pathology and now is more commonly viewed as a central nervous disorder. It is imperative that fibromyalgia is diagnosed early and treated aggressively as the syndrome can result in long-term chronic health issues and disability. Unfortunately, in many instances pharmacological treatments are ineffective and/or cause significant side effects when drug therapy does work. An over-riding challenge in clinically diagnosis and evaluating effects of therapy is the multifaceted nature of the syndrome and the overlapping symptoms with other chronically painful conditions (Mease, P. 2005). Drug therapy must be multifaceted as no single drug deals with all pathologies. Combinations of drug treatment along with non-pharmacological treatment approaches show the most promising improvements (Krypel, Linda L. 2009). This is extremely problematic for a large portion of individuals suffering with chronic pain including fibromyalgia. Commonly, the burden of illness from CP impacts individuals and their families financially. We know a

combination of therapies are most successful in reducing pain and managing symptoms; however, the majority of alternative and complimentary therapies are third party health services whereby, patients must pay all or part of the cost out of pocket. This significantly reduces the access to optimal treatments for many individuals.

Interventions aimed at reducing chronic symptoms for individuals with fibromyalgia must be a combination of education, psychological assistance and exercise, along with medications (Peterson, EL. 2007). There is no cure for fibromyalgia, but treatment aims to reduce symptoms and improve the quality of life. Both individuals with fibromyalgia and clinicians find the lack of standard and universally applicable successful treatments for fibromyalgia very frustrating (Perrot et al. 2008). Therefore, finding the right combination of therapies, having a supportive social network and a strong sense of self-management are necessary for individuals with fibromyalgia to decrease the overall burden of disease.

Despite an increase in various domains of research focused on fibromyalgia, it may appear that the development of effective therapies is slow to produce gold standard treatments (See Appendix L(a) and L(b) for *snapshots* of global research initiatives regarding chronic pain and fibromyalgia). There is no definitive break-through that will resolve the issues surrounding the diagnosing and treatment issues faced by fibromyalgia patients. No cure is known, no single medication relieves all fibromyalgia symptoms and no specific gene has been isolated as a result of research completed to date.

## **4.0 DISCUSSION AND RECOMMENDATIONS**

### **4.1 Introduction**

The preceding section of the report provided information on the etiology, diagnosis, treatment and management of an in-depth example of chronic pain by specifically discussing fibromyalgia. Section 4.0 presents a dialogue designed to inform the Rasch Foundation of items to consider when engaging in the area of chronic pain, recommendations for areas of research to consider and identification of specific resources that are currently required. The discussion is premised by the information obtained from the environmental scan and the key informant interviews done to date with clinicians working directly with individuals with chronic pain and specifically fibromyalgia.

## **4.2 Research Notes**

Considering the 'state of affairs' of chronic pain, there are selected items of importance when engaging in activities within this domain: 1) Funding Allocation for Pain Research, 2) Need for Multidisciplinary Approaches to Research, 3) Impact of Diagnostic Methods, 4) Influence of Cultural Diversity, and 5) Consequences of Pain Definitions and Reporting.

Despite the overwhelming numbers of individuals who suffer from chronic pain along with the tremendous costs to healthcare, little research money is dedicated to making advances in the area of chronic pain. "[P]ain accounts for more than 20% of medical visits and 10% of prescription drug sales, but only .6% of National Institutes of Health research funds." (Max 2003). Furthermore, the majority of pain research is conducted by relatively few clinical specialties and most often involves neurology, anesthesiology, cancer and dentistry. It is imperative that research expand to include more multidisciplinary teams such as cardiology, gastroenterology and urology in order to have an improved and broader focus of chronic pain and establish better collaboration in both research and treatment (Max 2003). In 2003, Bradshaw

and colleges published a study in the Journal of Pain investigating funding patterns of the NIH awards for 3 different areas, one being pain and demonstrated the need for resources in pain research. There is much to do in the progress of understanding the etiology of chronic pain, establishing specific diagnostic tools and developing effective treatments to reduce both the individual and social burden of disease caused by chronic pain disorders.

Another area to be cognizant of is diagnoses of chronic pain and specifically fibromyalgia. It is important to know that the present diagnostic criteria of the ACR method of diagnosing fibromyalgia influence the number and severity of fibromyalgia cases that are diagnosed. Originally, the ACR criterion for fibromyalgia was a classification system versus a diagnostic tool and focuses largely on pain compared to other aspects of the syndrome. A broader definition of fibromyalgia is necessary. It is feasible that the ACR approach identifies those individuals with more severe or pronounced fibromyalgia rather than an overall accurate diagnosis (Perrot et al. 2008). The diagnostic situation significantly impacts epidemiological estimates of the incidence and prevalence of fibromyalgia along with influencing what we know about risk factors, age at onset and other specific areas of inquiry. Given the importance of early and accurate diagnoses in not only fibromyalgia but all chronic pain disorders, paying particular attention to this area will aid in our ability to treat individuals suffering with chronic pain earlier with the goal of reducing morbidity.

The influence of culturally diverse characteristics is important as pain also has particular culturally relevant associations and to fully understand chronic pain from a holistic perspective more attention to the unique and heterogeneous characteristics of pain among various culturally diverse groups will lead to a better understanding of diagnosing, treating and managing not only fibromyalgia but all chronic pain disorders.

Future research must consider that the measurement of pain is challenging due to the subjective nature of reporting and interpreting pain. Attention to the numerous definitions of pain used among studies is important when comparing results across different research. Frequently a number of studies across a specific area are compared without really being aware of how different or even dissimilar the definitions of pain were constructed, measured and interpreted. Beginning the discourse around standardizing the operational definitions of pain would produce more methodologically sound research, making comparisons among studies more relevant and aid researchers and clinicians in clinical management decisions along with ultimately developing best practice guidelines.

### **4.3 Areas for Future Research**

Previously, research in the area of chronic pain and specifically fibromyalgia has focused on how particular disorders affect the individual such as the impact of symptoms e.g., pain along with other consequences like depression. A vast majority of research in the past has investigated pharmacological agents such as anti-depressants and anti-convulsants for symptom relief. More recently, research has concentrated in the area of neuroscience and a number of studies have focused on the non-invasive imaging options (i.e., CT, MRI's and PET as examples) with the hope of identifying pathologies and improving diagnostic availability.

Research is in a relatively infant stage concerning fibromyalgia and there are a number of newer and emerging areas. More work needs to be done in the area of genetic research and although no one gene has been isolated for a number of chronic pain syndromes, there is a growing understanding of the importance of investigating the role of genetics in chronic pain disorders. Continued research into gene isolation and the impact one's genetic make-up has upon the development or maintenance of chronic pain is necessary. As discussed previously concerning CFS, a focus on the impact of viruses on human health and their propensity to cause

chronic disease is an emerging area of study specific to chronic pain syndromes such as CFS, fibromyalgia and SLE. Furthermore, once there is a better understanding of the nature and influence of viruses, pharmacological agents can be developed in the hope of creating primary prevention measures in order to avoid developing certain chronic pain disorders from infection. Continued research into the area of neuroscience is very promising. We are beginning to better understand the role of neurotransmitters and neurohormones in chronic pain. Research must continue to examine the impact of over-production, inhibitory effects, neuronal pathways and the effect upon the modifications of such on genetic expression.

As the knowledge base grows regarding the causal agents of chronic pain, equally important work must surround diagnostic tools. In previous sections, the report has highlighted issues surrounding the ACR Classification, the potential to have both misdiagnosed and undiagnosed cases of fibromyalgia and chronic fatigue syndrome, such issues will be addressed through both a better understanding of the etiology and pathology associated with a chronic pain disorder and the development of specific and sensitive diagnostic tools to clearly identify the disorder in a particular individual. In conjunction, prospective epidemiological studies will then capture better estimates of the true prevalence of fibromyalgia and other chronic pain syndromes in the population.

Beyond the pharmacological and physiological areas of research other areas are also important. Given the biopsychological method to understanding disease involves an approach where biological, psychological and social factors all significantly impact disease, research into the effects of psychological and social factors on the development and maintenance of chronic pain disorders is vitally important. Understanding the connection between sociodemographic characteristics such as socioeconomic status will help identify individuals at higher risk of either

developing chronic pain disorders or once a traumatic event has taken place, better understanding of the impact of the psychological and social factors will aid in early targeted interventions and care plans designed to shorten both the duration and severity of chronic pain. Particularly, fibromyalgia does not have a gold standard treatment nor evidenced based clinical guidelines, the efficacy of complementary and alternative therapies needs more work to better understand the empirical benefit of self-management techniques and the efficacy of alternative and complementary therapies.

#### **4.4 Resources Requirements**

##### ***Clinical***

Resources identified in the environmental scan and with specific input from the key informant interviewees fall into patient and clinical areas. Patient advocacy groups such as “in the face of pain” consistently report that chronic pain too often remains untreated. Furthermore, it results from the lack of clinical intervention not because there are no pharmacological agents for treatment (Pain & Policy Group, 2007). Too often the concerns surrounding pain medication and restrictive regulatory processes impede good clinical practice. Disturbingly, the majority of healthcare professionals have very little and sometimes no formal training in pain management, yet they are expected to manage and treat chronic pain disorders, the outcome is that too many individuals do not get the necessary treatment they need and which is sadly often available (Miaskowski, C., Clearly, J., Coyne, P. et al, 2005). Clinicians are faced with the challenges surrounding the diagnosis, treatment and management of chronic pain and specifically fibromyalgia along with structural barriers such as the amount of available clinic time to effectively provide patient-centered care to patients. Furthermore, the ideal circumstance in providing care is using a transdisciplinary model. This approach requires communication and a

broad understanding of fibromyalgia from many clinical perspectives. Clinical education both during preliminary medical education and on-going continued education must provide information surrounding the advances in etiology, diagnostic criteria, treatment and management of CPD. Additionally, continued education must translate from workshops and conferences to the clinic. Many key informants stated that having resources such as a mentor, facilitated communication between specialists and primary care health care team members would help tremendously with the continuing information uptake in this area. One particular family physician stated that he would like to see a contact person made available to him in order that he could easily access quick information and verify his approach to treatment in an efficient and timely manner, likely someone to follow-up with by teleconference. “There is often excellent and very useful information presented at various forums, but sometimes I would like to simply ask a few quick follow-up questions, especially when new pharmacology agents and other treatments are consistently changing” (Key Informant).

### ***Patient***

Another over-riding theme from the key informant interviews pertained to the limited office or clinic hours available to the clinical team and the absolute necessity of providing one-on-one care for patients with fibromyalgia. Family physicians stated over and over again during interviews that patient education resources were too sparse and it was consistently difficult to spend the time necessary to educate patients about all the different aspects of their syndrome. As an example, one physician explained a hospital based program for patients with fibromyalgia. He realized that he was very fortunate to have such a program in his community and refers all patients who are diagnosed with fibromyalgia. More programs are required as they not only provide patient education, they also provide the patient the opportunity to maintain control of their care by being informed and provide critical social networking and support, which is directly

related to positive outcomes for those individuals with fibromyalgia who are able to participate in group processes.

The economic impact of fibromyalgia has been discussed and directly impedes some patient's ability to access third party treatment options such as physical therapy, massage therapy and other co-pay or out of pocket expenses. A pain specialist interviewed for the project and who specifically deals with patients who no other forms of treatment have provided relief often sees patients who have no choices left in terms of pain control. Overwhelmingly, a majority were unable to get early treatment for a trauma because of socio-economic issues. In some cases, wait times were simply too long and the patient deteriorated while waiting for specialized care. In other instances, accessing health care services is simply a financial barrier. Either way, the availability to both affordable and accessible services would improve an individual's likelihood of trying a number of treatment modalities in order to successfully find the right combination for success and reduce the suffering associated with fibromyalgia.

## BIBLIOGRAPHY

- Abeles, M., Solitar, B., Pillinger, MH. et al. 2008. "Update on fibromyalgia therapy." *The American Journal of Medicine* 121:555-561.
- Albin, JN., Neumann, L., and Dan Buskila. 2008. "Pathogenesis of fibromyalgia – A review." *Joint Bone Spine* 75:273-279.
- Albin, JN., Shoenfeld, Y., Bushila, D. 2006. "Fibromyalgia, infection and vaccination: Two more parts in the etiological puzzle." *Journal of Autoimmunity* 27:145-152.
- Arnold, Lesley M. 2000. "Antidepressant treatment of fibromyalgia: A meta-analysis and review" (2): 104 *Psychosomatics* 104-113.
- Aryeh, M., Pillinger, Micheal H., Solitar, Bruce M. and Micha Abeles. 2007. "Narrative Review: The Pathophysiology of Fibromyalgia -- Abeles et al. 146 (10): 726 -- *Annals of Internal Medicine*." *Annals of Internal Medicine* 146:726-734.
- Baldursdottir, S. 2008. "Juvenile primary fibromyalgia syndrome--review." *Laeknabladid* 94:463-72.
- Bradshaw D, Nakamura Y, and Chapman C. 2005. "National Institutes of Health grant awards for pain, nausea and dyspnea research: An assessment of funding patterns in 2003" *Journal of Pain*. 6(5):277–293.
- Bannwarth, Bernard et al. 2009. "Fibromyalgia syndrome in the general population of France: a prevalence study." *Joint, Bone, Spine: Revue Du Rhumatisme* 76:184-187.
- Bertsias, G et al. 2008. "EULAR recommendations for the management of systemic lupus erythematosus. Report of a Task Force of the EULAR Standing Committee for International Clinical Studies Including Therapeutics." *Annals of the Rheumatic Diseases* 67:195-205.
- Borigini, Mark. 2009. "Fibromyalgia Update From The American College Of Rheumatology Annual Meeting, 2009 | Psychology Today." <http://www.psychologytoday.com/blog/overcoming-pain/200910/fibromyalgia-update-the-american-college-rheumatology-annual-meeting-2009> (Accessed November 9, 2009).
- Branco, J. C et al. 2009. "Prevalence of Fibromyalgia: A Survey in Five European Countries." in *Seminars in Arthritis and Rheumatism*.
- Breivik, H, S Hattori, S Moulin, and E Dwight. 2005. "Prevalence and impact of chronic pain: a systematic review of epidemiological studies on chronic pain." in *International Association for the Study of Pain*. Sydney, Australia: WHO <http://www.medicalnewstoday.com/articles/29632.php> (Accessed October 30, 2009).

- Breivik, H., B. Collett, V. Ventafridda, R. Cohen, and D. Gallacher. 2006. "Survey of chronic pain in Europe: prevalence, impact on daily life, and treatment." *European Journal of Pain* 10:287–333.
- Burgmer, Markus, Markus Gaubitz, Carsten Konrad, and Marco Wrenger. 2009. "Decreased gray matter volumes in the cingulo-frontal cortex and the amygdala in patients with fibromyalgia." *Journal of Biobehavioural Medicine* 71:566-573.
- Buskila, D., and Piercarlo Sarzi-Puttini. 2006. "Arthritis Research & Therapy Biology and therapy of fibromyalgia. Genetic aspects of fibromyalgia syndrome." *Arthritis Research and Therapy* 8:218.
- Carville, S.F., Arendt-Nielsen, S., Biddal, H. et al. 2008. "EULAR evidence-based recommendations for the management of fibromyalgia syndrome" 67 (4): 536 *Annals of Rheumatic Diseases* 67:536-541.
- Castro-Lopez, J., Borgeat, A., Collett, B., and Rhodin, A. 2005. "Legal and regulatory frameworks governing opioid prescribing across Europe." in *International Association for the Study of Pain*. Sydney, Australia.
- Cervera, R. 2006. "Systemic lupus erythematosus in Europe at the change of the millennium: lessons from the "Euro-Lupus Project"." *Autoimmunity Reviews* 5:180–186.
- Chakrabarty, Sangita, and Roger Zoorob. 2007. "Fibromyalgia." *American Family Physician* 76:247-254.
- Clauw, D. J, and L. J Crofford. 2003. "Chronic widespread pain and fibromyalgia: What we know, and what we need to know." *Best Practice & Research Clinical Rheumatology* 17:685–701.
- Dadabhoy, D., and Daniel J. Clauw. 2006. "Nature Clinical Practice Rheumatology | Therapy Insight: fibromyalgia a different type of pain needing a different type of treatment | Article." *Nature Clinical Practice Rheumatology* 2:364-372.
- Gatchel, R. J, Y. B Peng, M. L Peters, P. N Fuchs, and D. C Turk. 2007. "The biopsychosocial approach to chronic pain: scientific advances and future directions." *Psychological bulletin* 133:581.
- Glabus, MF, R Simpson, and JC Patterson. 2009. "Changes in gray matter density in fibromyalgia: Correlation With dopamine metabolism." *Journal of Pain* 10:609-618.
- Hoffman, DL. and EM. Dukes. 2008. "The health status burden of people with fibromyalgia: a review of studies that assessed health status with the SF-36 or the SF-12." *International*

*Journal of Clinical Practice* 62:115-126.

- Kellow, J. E et al. 2006. "Applied principles of neurogastroenterology: physiology/motility sensation." *Gastroenterology* 130:1412–1420.
- Krypel, Linda L. 2009. "Fibromyalgia: A review of its pathophysiology and drug treatment." *Journal of Pharmacy Practice* 22:6-16.
- Lombardi, Vincent C et al. 2009. "Detection of an infectious retrovirus, XMRV, in blood cells of patients with chronic fatigue syndrome." *SCIENCE* 326:585-589.
- Longstreth, G. F et al. 2006. "Functional bowel disorders." *Gastroenterology* 130:1480–1491.
- Mäkelä, M. O. 1999. "Is fibromyalgia a distinct clinical entity? The epidemiologist's evidence." *Best Practice & Research Clinical Rheumatology* 13:415-419.
- Marcus, Dawn. 2009. "Fibromyalgia." in *Chronic Pain A Primary Care Guide to Practical Management. Current Clinical Practice*. Humana Press.
- Marcus, Dawn. 2008. "Lifestyle and Psychological Issues."  
<http://www.springerlink.com.proxy2.lib.uwo.ca:2048/content/k8202317124h6812/fulltext.html> (Accessed July 14, 2009).
- Marcus, Dawn. 2009. "Summary of Pain Management Issues: Frequent Concerns in Treating Chronic Pain Patients."  
<http://www.springerlink.com.proxy2.lib.uwo.ca:2048/content/r7533kk8713n0767/fulltext.html> (Accessed July 14, 2009).
- Martinez-Lavin, M. 2007. "Arthritis Research & Therapy Biology and therapy of fibromyalgia. Stress, the stress response system, and fibromyalgia." *Arthritis Research and Therapy* 9:216.
- Max, M. B. 2003. "How to move pain and symptom research from the margin to the mainstream." *Journal of Pain* 4:355–360.
- May, A. 2005. "Cluster headache: pathogenesis, diagnosis, and management." *The Lancet* 366:843–855.
- Mease, P. 2005. "Fibromyalgia syndrome: review of clinical presentation" *J Rheumatol Suppl.* 2005 Aug;75:6-21 6-21.
- Miaskowski, C.; Cleary, J.; Burney, R.; Coyne, P.; Finley, R.; Foster, R.; Grossman, S.; Janjan, N.; Ray, J.; Syrjala, K.; Weisman, S.; and Zahrbock, C. (2005). *Guideline for the Management of Cancer Pain in Adults and Children*, APS Clinical Practice Guidelines Series, No. 3. Glenview, IL: American Pain Society. Page 4.

- Millea, Paul J., and Richard L. Holloway. 2000. "Treating Fibromyalgia." *American Family Physician* 62:1575-82.
- Monstad, P. 2009 "Microvascular decompression as a treatment for cranial nerve hyperactive dysfunction – a critical view." *Acta Neurologica Scandinavica* 115:30-33.
- Nampiaparampil, D. E, and R. H Shmerling. 2004. "A review of fibromyalgia." *Am J Manag Care* 10:794–800.
- Pain & Policy Studies Group. *Achieving Balance in State Pain Policy: A Progress Report Card (third edition)*. University of Wisconsin Paul P. Carbone Comprehensive Cancer Center. Madison, Wisconsin, 2007.
- Perrot, S., Dickenson, AH., and Robert Bennett. 2008 "Fibromyalgia: Harmonizing science with clinical practice considerations" *Pain Practice* 8:177-189.
- Perrot, Serge, Anthony H Dickenson, and Robert M Bennett. 2008. "Fibromyalgia: harmonizing science with clinical practice considerations." *Pain Practice: The Official Journal of World Institute of Pain* 8:177-189.
- Peterson, EL. 2007. "Fibromyalgia management of a misunderstood disorder" *Journal of the American Academy of Nurse Practitioners* 19:341-348.
- Podolecki, T., Podolecki, A., Hrycek, A. 2009. "Fibromyalgia: Pathogenetic, diagnostic and therapeutic concerns." *Polskie Archiwum Medycyny Wewnetrznej* 119:157-161.
- Schürks, Markus, Hans-Christoph Diener, and Peter Goadsby. 2008. "Update on the prophylaxis of migraine." *Current Treatment Options in Neurology* 10:20-29.
- Spiller, R et al. 2007. "Guidelines on the irritable bowel syndrome: mechanisms and practical management." *Gut* 56:1770-1798.
- Taylor, Allyn L. 2007. "Addressing the global tragedy of needless pain: Rethinking the United Nations single convention on narcotic drugs." *Journal of Law, Medicine and Ethics* 35:556-571.
- Tunks, E. R, J. Crook, and R. Weir. 2008. "Epidemiology of chronic pain with psychological comorbidity: prevalence, risk, course, and prognosis." *Can J Psychiatry* 53:224–234.
- Valença, M. M, F. L Medeiros, H. A Martins, R. M Massaud, and M. F.P Peres. 2009. "Neuroendocrine dysfunction in fibromyalgia and migraine." *Current Pain and Headache Reports* 13:358–364.
- van't Leven, Marjokein, Gerhard A. Zielhuis, Jos W. van der Meer, Andre L. Verbeek, and Gijs Bleijenberg. 2009. "Fatigue and chronic fatigue syndrome-like complaints in the general population." *European Journal of Public Health* Online Publication.

<http://eurpub.oxfordjournals.org/cgi/content/abstract/ckp113v1> (Accessed November 13, 2009).

Vigna-Perez, M. et al. 2006. "Clinical and immunological effects of Rituximab in patients with lupus nephritis refractory to conventional therapy: a pilot study." *Arthritis Research and Therapy* 8:83.

Wallace, Daniel Jeffery, and Daniel J Clauw. 2005. *Fibromyalgia & Other Central Pain Syndromes*. 1st ed. Philadelphia, PA: Lippincott Williams and Wilkins.

Weir, Peter T., Harlan, Gregory A., Nkoy, F. et al. 2006. "The incidence of fibromyalgia and its associated comorbidities: A population-based retrospective cohort study based on international classification of diseases, 9th Revision Codes." *Journal of Clinical Rheumatology* 12:124-128.

Wood, Patrick. 2008. "Fibromyalgia - The Sound of Distant Thunder | Neurology." *US Neurological Disease* 2. <http://www.touchneurology.com/articles/fibromyalgia-sound-distant-thunder> (Accessed May 21, 2009).

Wyller, Vegard Bruun. 2007. "The chronic fatigue syndrome: an update." *Acta Neurologica Scandinavica* 115:7-14.



## APPENDIX A

### SEARCH STRATEGY: KEYWORD SUMMARY

PRIMARY KEY WORDS	SECONDARY KEY WORDS	TERTIARY KEY WORDS	QUATERNARY KEY WORDS
	<b>Treatment con't</b>	Primary Health Care	Case Management
			Plan of Care
			Written Plan of Care
		Multidisciplinary	
	<b>Genetics</b>	Linkage	
	<b>Genes</b>	Familial	
	<b>Viruses</b>	XMRV	
	<b>Psychosocial</b>	Stress	
		Quality of Life	
		Illness Perception	
	<b>Health Promotion</b>	Patient Education	
	<b>Clinical Education</b>	Medical School	
		Continuing	CME

## APPENDIX B

### ORGANIZATIONS AND ELECTRONIC REFERENCES (Including Information and Blogs)

Official Organization Name	Web Address
<b>CANADA</b>	
FM-CFS Canada, Compassion in Action	<a href="http://www.fm-cfs.ca/home.html">http://www.fm-cfs.ca/home.html</a>
Canadian Pain Society	<a href="http://www.canadianpainsociety.ca/indexenglish.html">http://www.canadianpainsociety.ca/indexenglish.html</a>
Canadian Pain Coalition	<a href="http://www.canadianpaincoalition.ca/">http://www.canadianpaincoalition.ca/</a>
Chronic Pain	<a href="http://www.chronicpaincanada.com/">http://www.chronicpaincanada.com/</a>
The National Headache Foundation	<a href="http://www.headaches.org/">http://www.headaches.org/</a>
Invisible Disabilities Association of Canada	<a href="http://www.nsnat.org/idacan/index.html">http://www.nsnat.org/idacan/index.html</a>
<b>UNITED STATES</b>	
National Fibromyalgia Association	<a href="http://www.fmaware.org/site/PageServer?pagename=fibromyalgia">http://www.fmaware.org/site/PageServer?pagename=fibromyalgia</a>
American Fibromyalgia Syndrome Association	<a href="http://www.afsafund.org/">http://www.afsafund.org/</a>
American Chronic Pain Association	<a href="http://www.theacpa.org/">http://www.theacpa.org/</a>
American Pain Foundation	<a href="http://www.painfoundation.org/">http://www.painfoundation.org/</a>
Southern Pain Society	<a href="http://www.southernpainsociety.org/index.html">http://www.southernpainsociety.org/index.html</a>
National Pain Foundation	<a href="http://www.nationalpainfoundation.org/">http://www.nationalpainfoundation.org/</a>
The Fibromyalgia Community	<a href="http://fmscommunity.org/index.htm">http://fmscommunity.org/index.htm</a>
Reflex Sympathetic Dystrophy Syndrome Association (RSDSA)	<a href="http://www.rsd.org/index2.html">http://www.rsd.org/index2.html</a>
American Academy of Physical Medicine and Rehabilitation	<a href="http://www.aapmr.org">http://www.aapmr.org</a>
American Academy of Orofacial Pain	<a href="http://www.aaop.org/">http://www.aaop.org/</a>
National Institute of Mental Health	<a href="http://www.nimh.nih.gov/index.shtml">http://www.nimh.nih.gov/index.shtml</a>
AAPM - The American Academy of Pain Management	<a href="http://www.aapainmanage.org/">http://www.aapainmanage.org/</a>
Welcome to The American Massage Therapy Association	<a href="http://www.amtamassage.org/">http://www.amtamassage.org/</a>
The American Occupational Therapy Association, Inc.	<a href="http://www.aota.org/">http://www.aota.org/</a>
American Academy of Pain Medicine	<a href="http://www.painmed.org/">http://www.painmed.org/</a>
American Pain Society	<a href="http://www.ampainsoc.org/">http://www.ampainsoc.org/</a>
The American Chiropractic Association	<a href="http://www.acatoday.org/">http://www.acatoday.org/</a>

<b>UNITED STATES</b>	
Lupus Foundation of America	<a href="http://www.lupus.org/newsite/index.html">http://www.lupus.org/newsite/index.html</a>
Anxiety Disorders Association of America	<a href="http://www.adaa.org/">http://www.adaa.org/</a>
American Lyme Disease Foundation	<a href="http://www.aldf.com/">http://www.aldf.com/</a>
American Holistic Medical Association	<a href="http://www.holisticmedicine.org/">http://www.holisticmedicine.org/</a>
American Academy of Physical Medicine and Rehabilitation (AAPM&R)	<a href="http://www.aapmr.org/">http://www.aapmr.org/</a>
<b>UNITED KINGDOM</b>	
Fibromyalgia Association UK	<a href="http://www.fibromyalgia-associationuk.org/">http://www.fibromyalgia-associationuk.org/</a>
The British Pain Society	<a href="http://www.britishpainsociety.org/">http://www.britishpainsociety.org/</a>
Pain Research Institute	<a href="http://www.liv.ac.uk/pri/">http://www.liv.ac.uk/pri/</a>
Patient UK- Fibromyalgia	<a href="http://www.patient.co.uk/showdoc/27000172/">http://www.patient.co.uk/showdoc/27000172/</a>
<b>AUSTRALIA</b>	
Bridges & Pathways Institute Inc / Southern Chronic Illness Links Network	<a href="http://www.communitywebs.org/ChronicIllnessCare/index.htm">http://www.communitywebs.org/ChronicIllnessCare/index.htm</a>
Chronic Pain Australia	<a href="http://www.thepainproject.org/cpa/index.php">http://www.thepainproject.org/cpa/index.php</a>
<b>EUROPE</b>	
The European Federation of IASP chapters (EFIC) Europe Against Pain	<a href="http://www.efic.org/">http://www.efic.org/</a>
ENFA - European Network of Fibromyalgia Associations	<a href="http://www.enfa-europe.eu/index1.php?id=14">http://www.enfa-europe.eu/index1.php?id=14</a>
Irish Chronic Pain Association	<a href="http://www.chronicpainireland.org/">http://www.chronicpainireland.org/</a>
The European League Against Rheumatism	<a href="http://www.eular.org">http://www.eular.org</a>
Fibromyalgia Support North Ireland	<a href="http://www.fmsni.org.uk/">http://www.fmsni.org.uk/</a>
European Pain Network	<a href="http://www.europeanpainnetwork.com">http://www.europeanpainnetwork.com</a>
European Federation of IASP Chapters	<a href="http://www.efic.org/aboutEFIC.html">http://www.efic.org/aboutEFIC.html</a>

## ORGANIZATIONS AND ASSOCIATIONS

National Fibromyalgia Research Associations	<a href="http://www.nfra.net/">http://www.nfra.net/</a>
National Chronic Fatigue Syndrome & Fibromyalgia Association	<a href="http://www.ncfsfa.org">http://www.ncfsfa.org</a>
Advocates for Fibromyalgia Funding, Treatment, Education and Research	<a href="http://www.affter.org/">http://www.affter.org/</a>
The Chronic Syndrome Support Association, Inc.	<a href="http://www.cssa-inc.org/">http://www.cssa-inc.org/</a>
National Institutes of Health Pain Consortium	<a href="http://painconsortium.nih.gov">http://painconsortium.nih.gov</a>
Chronic Pain Support Group	<a href="http://www.chronicpainsupport.org">http://www.chronicpainsupport.org</a>
Chronic Pain Outreach	<a href="http://www.chronicpain.org/">http://www.chronicpain.org/</a>
The National Association of Cognitive-Behavioral Therapists Online Headquarters	<a href="http://www.nacbt.org/">http://www.nacbt.org/</a>
Patient Advocate Foundation	<a href="http://www.patientadvocate.org/">http://www.patientadvocate.org/</a>
International Foundation for Functional Gastrointestinal Disorders	<a href="http://www.iffgd.org/">http://www.iffgd.org/</a>
Trigeminal Neuralgia Association	<a href="http://www.fpa-support.org">www.fpa-support.org</a>
Women's Health Information from the National Women's Health Resource Center	<a href="http://www.healthywomen.org/">http://www.healthywomen.org/</a>
National Sleep Foundation - Information on Sleep Health and Safety	<a href="http://www.sleepfoundation.org/">http://www.sleepfoundation.org/</a>
ME/CFS (Chronic Fatigue Syndrome) & Fibromyalgia Information	<a href="http://www.co-cure.org/">http://www.co-cure.org/</a>
H.O.P.E.   Welcome to Helping Our Pain and Exhaustion, Inc.	<a href="http://hffcf.org/">http://hffcf.org/</a>
Pain Organizations   How To Cope With Pain	<a href="http://www.howtocopewithpain.org/resources/pain-organizations.html">http://www.howtocopewithpain.org/resources/pain-organizations.html</a>
National Fibromyalgia Partnership	<a href="http://www.fmpartnership.org/">http://www.fmpartnership.org/</a>
TNA The Facial Pain Association	<a href="http://www.endthepain.org/">http://www.endthepain.org/</a>
International Association for the Study of Pain   Pain Treatment Services	<a href="http://www.iasp-pain.org//AM/Template.cfm?Section=Home">http://www.iasp-pain.org//AM/Template.cfm?Section=Home</a>

## ORGANIZATIONS AND ASSOCIATIONS

International MYOPAIN Society	<a href="http://www.myopain.org/">http://www.myopain.org/</a>
Change.org - FIBROMYALGIA ASSOCIATION	<a href="http://www.change.org/fibromyalgia_association">http://www.change.org/fibromyalgia_association</a>
The Physiotherapy Pain Association Online	<a href="http://www.ppaonline.co.uk/">http://www.ppaonline.co.uk/</a>
The Chronic Syndrome Support Association, Inc.	<a href="http://www.cssa-inc.org/">http://www.cssa-inc.org/</a>
Pain Clinic	<a href="http://www.painclinic.org/">http://www.painclinic.org/</a>
National Foundation for the Treatment of Pain	<a href="http://www.paincare.org/index.html">http://www.paincare.org/index.html</a>
MedlinePlus: Pain	<a href="http://www.nlm.nih.gov/medlineplus/pain.html">http://www.nlm.nih.gov/medlineplus/pain.html</a>
Interstitial Cystitis Association - Home	<a href="http://www.ichelp.org/">http://www.ichelp.org/</a>
International Pelvic Pain Society	<a href="http://www.pelvicpain.org/">http://www.pelvicpain.org/</a>
National Institute of Neurological Disorders and Stroke (NINDS)	<a href="http://www.ninds.nih.gov/index.htm">http://www.ninds.nih.gov/index.htm</a>
Brain & Spine Foundation - Face Pain	<a href="http://www.brainandspine.org.uk/information/publications/brain_and_spine_booklets/face_pain/index.html">http://www.brainandspine.org.uk/information/publications/brain_and_spine_booklets/face_pain/index.html</a>
WABA - Worldwide Aquatic Bodywork Association	<a href="http://www.waba.edu/">http://www.waba.edu/</a>
The TMJ Association	<a href="http://www.tmj.org/">http://www.tmj.org/</a>
Structural Integration Hellerwork	<a href="http://www.hellerwork.com/">http://www.hellerwork.com/</a>
Reflexology Association of America	<a href="http://www.reflexology-usa.org/">http://www.reflexology-usa.org/</a>
Prescription Assistance Program	<a href="http://www.pparx.org/">http://www.pparx.org/</a>
National Sleep Foundation	<a href="http://www.sleepfoundation.org/">http://www.sleepfoundation.org/</a>
National Family Caregivers Association	<a href="http://www.nfcacares.org/">http://www.nfcacares.org/</a>
International Foundation for Functional Gastrointestinal Disorders	<a href="http://www.iffgd.org/">http://www.iffgd.org/</a>
Association For Applied Psychophysiology & Biofeedback	<a href="http://www.aapb.org/">http://www.aapb.org/</a>
fibromyalgia lupus skin houses for at myalgia.org	<a href="http://www.myalgia.org/">http://www.myalgia.org/</a>
Whittemore Peterson Institute for Neuro Immune Disease	<a href="http://www.wpinstitute.org/xmrv/index.html">http://www.wpinstitute.org/xmrv/index.html</a>
The DANA Foundation	<a href="http://www.dana.org/news/publications/detail.aspx?id=4228">http://www.dana.org/news/publications/detail.aspx?id=4228</a>
Arthritis, Musculoskeletal and Skin Diseases Home Page	<a href="http://www.niams.nih.gov/">http://www.niams.nih.gov/</a>
The Fibromyalgia Research Foundation	<a href="http://www.fibromyaliaresearch.org/">http://www.fibromyaliaresearch.org/</a>
The Chronic Syndrome Support Association, Inc.	<a href="http://www.cssa-inc.org/">http://www.cssa-inc.org/</a>

## ORGANIZATIONS AND ASSOCIATIONS

National Chronic Fatigue Syndrome & Fibromyalgia	<a href="http://www.ncfsfa.org/">http://www.ncfsfa.org/</a>
Fibromyalgia WellSpring Foundation Homepage	<a href="http://www.fibromyalgiawellspringfoundation.org/">http://www.fibromyalgiawellspringfoundation.org/</a>
Fibromyalgia - muscular rheumatism or neurasthenia	<a href="http://hcd2.bupa.co.uk/fact_sheets/html/fibromyalgia.html">http://hcd2.bupa.co.uk/fact_sheets/html/fibromyalgia.html</a>

## INFORMATION SITES

Doctors Hangout	<a href="http://doctorshangout.com">http://doctorshangout.com</a>
Juvenile Primary Fibromyalgia Syndrome: Teens and PreTeens	<a href="http://www.healthboards.com/boards/showthread.php?t=287058">http://www.healthboards.com/boards/showthread.php?t=287058</a>
Fibromyalgia and Florence Nightingale   Women and Fibromyalgia	<a href="http://womenandfibromyalgia.com/2008/05/12/fibromyalgia-and-florence-nightingale/">http://womenandfibromyalgia.com/2008/05/12/fibromyalgia-and-florence-nightingale/</a>
Society for Women's Health Research: Autoimmunity: Fibromyalgia Syndrome	<a href="http://www.womenshealthresearch.org/site/PageServer?pagename=autoimmunity_fibromyalgia">http://www.womenshealthresearch.org/site/PageServer?pagename=autoimmunity_fibromyalgia</a>
Know Fibro   Learn How to Help Manage Your Fibromyalgia Symptoms	<a href="http://www.knowfibro.com/index.jsp">http://www.knowfibro.com/index.jsp</a>
Overview of FM	<a href="http://www.myalgia.com/OFF_info/OFF_disclaimer.htm">http://www.myalgia.com/OFF_info/OFF_disclaimer.htm</a>
Men with Fibromyalgia	<a href="http://www.menwithfibro.com/home.html">http://www.menwithfibro.com/home.html</a>
Management of fibromyalgia syndrome	<a href="http://www.guideline.gov/summary/summary.aspx?doc_id=6426">http://www.guideline.gov/summary/summary.aspx?doc_id=6426</a>
Surviving Fibromyalgia: My 30+ Years Managing My Fibromyalgia	<a href="http://www.managing-my-fibromyalgia.com/index.html">http://www.managing-my-fibromyalgia.com/index.html</a>
Fibromyalgia	<a href="http://www.nhs.uk/Conditions/Fibromyalgia/Pages/Introduction.aspx?r=1&amp;rtitle=Fibromyalgia+-+Introduction">http://www.nhs.uk/Conditions/Fibromyalgia/Pages/Introduction.aspx?r=1&amp;rtitle=Fibromyalgia+-+Introduction</a>
Fibromyalgia - muscular rheumatism or neurasthenia	<a href="http://hcd2.bupa.co.uk/fact_sheets/html/fibromyalgia.html">http://hcd2.bupa.co.uk/fact_sheets/html/fibromyalgia.html</a>

### INFORMATION SITES

Irritable Bowel Syndrome (IBS) Resource Center - HealingWell.com	<a href="http://www.healingwell.com/ibs/">http://www.healingwell.com/ibs/</a>
Information on Medication for Fibromyalgia, CMP, CFIDS and overlapping conditions	<a href="http://www.fmscommunity.org/medstud.htm">http://www.fmscommunity.org/medstud.htm</a>
Exercise for treating fibromyalgia syndrome	<a href="http://www.cochrane.org/reviews/en/ab003786.html">http://www.cochrane.org/reviews/en/ab003786.html</a>
Medical Discussion Paper - Fibromyalgia Syndrome	<a href="http://www.wsiat.on.ca/english/wsiatDocs/mlo/fibromyalgia_screen.htm">http://www.wsiat.on.ca/english/wsiatDocs/mlo/fibromyalgia_screen.htm</a>
Fibro and Fatigue	<a href="http://www.fibroandfatigue.com/">http://www.fibroandfatigue.com/</a>
Fibromyalgia Network	<a href="http://www.healthfinder.gov/">http://www.healthfinder.gov/</a>
Fibromyalgia - Patient Education - neurology channel	<a href="http://www.neurologychannel.com/fibromyalgia/index.shtml">http://www.neurologychannel.com/fibromyalgia/index.shtml</a>
University Of Western Ontario Interdisciplinary Pain Program	<a href="http://www.londonpain.ca/">http://www.londonpain.ca/</a>
Focus on fibromyalgia	<a href="http://www.focusonfibromyalgia.com/">http://www.focusonfibromyalgia.com/</a>
Welcome To Fibromyalgia Network News	<a href="http://www.fmnetnews.com/">http://www.fmnetnews.com/</a>
Fibromyalgia	<a href="http://www.cwhn.ca/resources/faq/fibromyalgia.html">http://www.cwhn.ca/resources/faq/fibromyalgia.html</a>
Fibromyalgia - MayoClinic.com	<a href="http://mayoclinic.com/health/fibromyalgia/DS00079">http://mayoclinic.com/health/fibromyalgia/DS00079</a>
What is Fibromyalgia (FM)?	<a href="http://www.mcs-america.org/index_files/FM.htm">http://www.mcs-america.org/index_files/FM.htm</a>
Welcome to FibroIreland	<a href="http://www.fibroireland.com/">http://www.fibroireland.com/</a>
Bandolier: The oxford Pain Internet Site	<a href="http://www.medicine.ox.ac.uk/bandolier/">http://www.medicine.ox.ac.uk/bandolier/</a>
Mayday Pain Project	<a href="http://www.painandhealth.org">http://www.painandhealth.org</a>
Pain Links	<a href="http://lambornepain.hypermart.net/paindoc.html">http://lambornepain.hypermart.net/paindoc.html</a>
Pain 101	<a href="http://www.pain101.com/">http://www.pain101.com/</a>
Chronic Pelvic Pain -- familydoctor.org	<a href="http://familydoctor.org/online/famdocen/home/women/reproductive/gynecologic/033.html">http://familydoctor.org/online/famdocen/home/women/reproductive/gynecologic/033.html</a>
International Pelvic Pain Society	<a href="http://www.pelvicpain.org/">http://www.pelvicpain.org/</a>
Pain.com - A World of Information on Pain	<a href="http://pain.com/">http://pain.com/</a>
Patient Knowledge   Paineurope	<a href="http://www.paineurope.com/index.php?q=en/book_page/patient_knowledge">http://www.paineurope.com/index.php?q=en/book_page/patient_knowledge</a>

### INFORMATION SITES

Chronic Pain Association of Australia	<a href="http://www.goodcompany.com.au/community_groups/community_group_list/chronic_pain_association_of_australia">http://www.goodcompany.com.au/community_groups/community_group_list/chronic_pain_association_of_australia</a>
National Professional Pain Organization	<a href="http://www.beyondchronicpain.com/site/resources/nationalProfessionalPainOrganizations.php">http://www.beyondchronicpain.com/site/resources/nationalProfessionalPainOrganizations.php</a>
facepain.com: The Leading Pain Site on the Net	<a href="http://www.facepain.com/">http://www.facepain.com/</a>
Israel Society for Fighting Pain - Chronic Pain, RSD & Pain Resources	<a href="http://www.fightingpain.co.il/en/linkse.asp">http://www.fightingpain.co.il/en/linkse.asp</a>
iSTOP: IMS for Chronic Pain	<a href="http://www.istop.org/index.html">http://www.istop.org/index.html</a>
Clinicians Exchange Forms Partnership With National Fibromyalgia Association	<a href="http://www.reuters.com/article/pressRelease/idUS154427+25-Feb-2009+PRN20090225">http://www.reuters.com/article/pressRelease/idUS154427+25-Feb-2009+PRN20090225</a>
ME/CFS Australia (SA) Inc: New Fibromyalgia video	<a href="http://sacfs.asn.au/news/2009/06/06_10_fibromyalgia_video.htm">http://sacfs.asn.au/news/2009/06/06_10_fibromyalgia_video.htm</a>
Medline Plus: Pain	<a href="http://www.nlm.nih.gov/medlineplus/pain.html">http://www.nlm.nih.gov/medlineplus/pain.html</a>
Mayday Pain Project Home Page	<a href="http://www.painandhealth.org/">http://www.painandhealth.org/</a>
Bandolier	<a href="http://www.medicine.ox.ac.uk/index.html">http://www.medicine.ox.ac.uk/index.html</a>
Blue Ribbon Campaign for ME/CFS	<a href="http://www.blueribboncampaignforme.org/">http://www.blueribboncampaignforme.org/</a>
Bath Centre For Pain Services	<a href="http://www.bathcentreforpainservices.nhs.uk/">http://www.bathcentreforpainservices.nhs.uk/</a>
Irritable Bowel Syndrome (IBS) Resource Center - HealingWell.com	<a href="http://www.healingwell.com/ibs/">http://www.healingwell.com/ibs/</a>
For Grace   Women In Pain	<a href="http://www.forgrace.org/women/in/pain_home/">http://www.forgrace.org/women/in/pain_home/</a>
Fibromyalgia: Improving Treatment, Unraveling the Cause	<a href="http://www.prohealth.com/library/showarticle.cfm?id=3724&amp;t=CFIDS_FM">http://www.prohealth.com/library/showarticle.cfm?id=3724&amp;t=CFIDS_FM</a>
ME/CFS Australia (SA) Inc: New Fibromyalgia video	<a href="http://www.w-h-a.org/index.cfm/spKey/archive/spId/C1F82490-0DF4-BDB7-774AFAD0CA635C0B.html">http://www.w-h-a.org/index.cfm/spKey/archive/spId/C1F82490-0DF4-BDB7-774AFAD0CA635C0B.html</a>
ME/CFS Australia (SA) Inc: Legitimacy of fibromyalgia still a contentious point	<a href="http://sacfs.asn.au/news/2009/09/09_01_fibromyalgia_legitimacy.htm">http://sacfs.asn.au/news/2009/09/09_01_fibromyalgia_legitimacy.htm</a>
Management of fibromyalgia syndrome.	<a href="http://www.guideline.gov/summary/summary.aspx?doc_id=6426">http://www.guideline.gov/summary/summary.aspx?doc_id=6426</a>

<b>INFORMATION SITES</b>	
Know Fibro   Learn How to Help Manage Your Fibromyalgia Symptoms	<a href="http://www.knowfibro.com/index.jsp">http://www.knowfibro.com/index.jsp</a>
Fibromyalgia - Introduction	<a href="http://www.nhs.uk/Conditions/Fibromyalgia/Pages/Introduction.aspx?">http://www.nhs.uk/Conditions/Fibromyalgia/Pages/Introduction.aspx?</a>
Chronic Illness Care - Fibromyalgia	<a href="http://www.communitywebs.org/ChronicIllnessCare/fibromyalgia.htm">http://www.communitywebs.org/ChronicIllnessCare/fibromyalgia.htm</a>
<b>BLOGS</b>	
Health Journals / Diaries / Blogs for Fibromyalgia syndrome (FMS)	<a href="http://www.revolutionhealth.com/drugs-treatments/rating/health-journals-diaries-blogs-for-fibromyalgia-syndrome-fms">http://www.revolutionhealth.com/drugs-treatments/rating/health-journals-diaries-blogs-for-fibromyalgia-syndrome-fms</a>
Help for fibromyalgia Blog	<a href="http://www.blogcatalog.com/blogs/help-for-fibromyalgia/posts/tag/fibromyalgia+syndrome/">http://www.blogcatalog.com/blogs/help-for-fibromyalgia/posts/tag/fibromyalgia+syndrome/</a>
Health Journals / Diaries / Blogs for Fibromyalgia syndrome (FMS)	<a href="http://www.revolutionhealth.com/drugs-treatments/rating/health-journals-diaries-blogs-for-fibromyalgia-syndrome-fms">http://www.revolutionhealth.com/drugs-treatments/rating/health-journals-diaries-blogs-for-fibromyalgia-syndrome-fms</a>
Fibromyalgia Syndrome - Can it Still be Made Well?   The Chiro Blog Site	<a href="http://thechiroblogsite.com/?p=445">http://thechiroblogsite.com/?p=445</a>
Help for fibromyalgia Blog	<a href="http://www.blogcatalog.com/blogs/help-for-fibromyalgia/posts/tag/fibromyalgia+syndrome/">http://www.blogcatalog.com/blogs/help-for-fibromyalgia/posts/tag/fibromyalgia+syndrome/</a>
National Fibromyalgia Association -Blogs, Pictures, and more	<a href="http://en.wordpress.com/tag/national-fibromyalgia-association/">http://en.wordpress.com/tag/national-fibromyalgia-association/</a>
Prospering Over Fibromyalgia	<a href="http://fibromyalgia-biz.blogspot.com/">http://fibromyalgia-biz.blogspot.com/</a>
The Fibromyalgia Research Blog	<a href="http://fibroresearch.blogspot.com/">http://fibroresearch.blogspot.com/</a>
Michigan Pain Blog: A Multi-Disciplinary Approach To Treating Pain.	<a href="http://www.michiganpainblog.com/2009/07/multi-disciplinary-approach-to-treating.html">http://www.michiganpainblog.com/2009/07/multi-disciplinary-approach-to-treating.html</a>
UK Fibromyalgia: Absolutely everything you need to know about fibromyalgia.	<a href="http://www.ukfibromyalgia.com/">http://www.ukfibromyalgia.com/</a>

**APPENDIX C**  
**SELECTED KEY INFORMANTS**

<b>CANADA</b>					
<b>Name</b>	<b>Title</b>	<b>Organization/Institution</b>	<b>Email/Phone Contact</b>	<b>Primary Reason Chosen to Interview</b>	<b>Status</b>
<b>Dr. F. Mohan</b>	Family Physician	Hotel-Dieu Grace Hospital; Adjunct status with UWO	tonkynato@gmail.com	Front line clinical work/family medicine within psychiatry in hospital setting	Complete
<b>Dr. V. Kamath</b>	Family Physician and Pain Management Specialist	Private Practice/Part-Time Faculty UWO Dept. of Family Medicine	vkamath2@uwo.ca	Specific work in pain management of complex and difficult clinical cases that often do not respond to conventional treatment	Complete
<b>Dr. J. Brown, PhD</b>	Researcher/Social Work/Family Medicine	Centre for Studies in Family Medicine, University of Western Ontario, London Ontario	jbbrown@uwo.ca	Social Work/Counseling Background, Academic Char of Graduate Studies in Family Medicine, Long-standing background in research	Did Not Complete
<b>Dr. S. Cejic</b>	Family Physician, Full-Time Faculty, UWO ; Byron Family Medical Centre	Schulich School of Medicine, University of Western Ontario, London Ontario	scejic@uwo.ca	Front line clinical work/Family Health Team	Complete
<b>Dr. E. Wong</b>	Family Physician Full-Time Faculty, UWO; Director Post Graduate Program	London Health Sciences, University of Western Ontario, London Ontario; St. Joseph Family Medical Centre	mdericwong@gmail.com	Front line clinical work; association with undergraduate and graduate medical school education; less than 10 years in FM thus perspective on recent training and clinical management of fibromyalgia	Complete

**APPENDIX C**  
**SELECTED KEY INFORMANTS**

<b>UNITED STATES</b>					
<b>Name</b>	<b>Title</b>	<b>Organization/Institution</b>	<b>Email/Phone Contact</b>	<b>Primary Reason Chosen to Interview</b>	<b>Status</b>
<b>Lynne Matallana</b>	President and Founder	National Fibromyalgia Association Corporate Offices Lynne Matallana, President 2121 S. Towne Centre Place, Suite 300 Anaheim, CA 92806 *Includes Canadian Content	(714) 921-0150	National US Organization; 2007 Annual Report <a href="http://www.fmaware.org/site/DocServer/AnnualReport2007.pdf?docID=1721">http://www.fmaware.org/site/DocServer/AnnualReport2007.pdf?docID=1721</a>	TBD
<b>Kristin Thorson</b>	President	American Fibromyalgia Syndrome Association AFSA PO Box 32698 Tucson, AZ 85751	(520) 733-1570; kthorson@afsafund.org	National Organization; Research Initiatives	TBD
<b>Russell Rothenberg, M.D.</b>	Chair	National Fibromyalgia Partnership, Inc National Fibromyalgia Partnership P.O. Box 160 Linden, Virginia U.S.A. 22642-0160	866-725-4404; mail@fmpartnership.org	Largest Non-profit association dedicated to fibromyalgia in the United States	TBD

## APPENDIX C

### SELECTED KEY INFORMANTS

UK					
Name	Title	Organization/Institution	Email/Phone Contact	Primary Reason Chosen to Interview	Status
<b>Pam Stewart</b>	Chair	Head Office Fibromyalgia Association UK P O Box 206, Stourbridge, DY9 8YL Fax: 01384 895 005	fmauk@hotmail.com.  *Use fibromyalgia in the subject line	National UK Organization; Ms. Stewart is also the President of the European Network of Fibromyalgia Associations	TBD
AUSTRALIA					
Name	Title	Organization/Institution	Email/Phone Contact	Primary Reason Chosen to Interview	Status
<b>Cathie Powell</b>  <b>*Europe affiliation</b>	Program Co- ordinator	Bridges & Pathways Institute Inc / Southern Chronic Illness Links Network	08 8358 6086; cathiepow@e- access.com.au	National representation for Australia; good clinical perspective as their projects are directed towards low priority complex chronic illnesses, focusing on multidisciplinary, shared care management.	TBD

**APPENDIX C**  
**SELECTED KEY INFORMANTS**

<b>EUROPE</b>					
<b>Name</b>	<b>Title</b>	<b>Organization/Institution</b>	<b>Email/Phone Contact</b>	<b>Primary Reason Chosen to Interview</b>	
<b>ENFA - European Network of Fibromyalgia Associations - SEE PAM STEWART, UK</b>					TBD
<b>Cathie Powell</b>	Program Co- ordinator	Bridges & Pathways Institute Inc / Southern Chronic Illness Links Network	08 8358 6086; cathiepow@e- access.com.au	National representation for Australia; good clinical perspective as their projects are directed towards low priority complex chronic illnesses, focusing on multidisciplinary, shared care management.	TBD

## APPENDIX D: KEY INFORMANT INTERVIEW GUIDE

### GOALS OF THE KEY INFORMANT INTERVIEWS

- To elicit expert opinions regarding research priorities in the area of fibromyalgia(CP)
- To elicit expert opinions regarding resources required in the area of fibromyalgia(CP)
- To elicit expert opinions on where financial resources are best suited in the area of fibromyalgia(CP)
- To expand the social network of contacts in the area of fibromyalgia(CP)

### SUGGESTED LIST OF QUESTIONS TO ASK

1. [Where appropriate] How Long Have You Been Involved in the Area of fibromyalgia (CP)? Or How Long Has the Organization been involved in activities associated with fibromyalgia (CP)? (In some cases this is self evident)
- 2a. In Your Expert Opinion, What do you feel are important research areas to consider at this time regarding fibromyalgia (CP)?
- 2b. Again focusing on research areas, what do you feel is specifically a priority at this time for individuals afflicted with fibromyalgia (CP)?
3. When thinking about fibromyalgia (CP), what do you feel are important areas that are currently under-resourced?
- 3b. Of the areas you identified as under-resourced, which do you personally feel is a priority? Please explain why?
4. In Your Expert Opinion, Can you recommend specific organizations and or projects to investigate for appropriateness to fund in the area of fibromyalgia (CP)?
5. In Your Expert Opinion, do you feel there are particular areas that are not prudent to fund at this time? If so, can you explain why? [Perhaps some areas are adequately resourced]
6. Do you have an opinion on any areas that have sufficient resources at this time thus areas that would be a good choice to shy away from allowing our resources to be directed elsewhere?
7. Are you aware of international initiatives that include a transdisciplinary approach to researching fibromyalgia (CP) that would be worthy of examining for funding purposes? If so, can you elaborate on why you feel this is a formidable initiative?
8. Do you feel it would be important to make contact with any other researchers or colleagues you have in this area to find out more about what the priorities are in fibromyalgia (CP) or to better understand where resources are needed?
9. Is there any other information you feel would be important for us to consider in the area of fibromyalgia (CP) when setting up an endowment fund at this time?

## APPENDIX E: PAIN CONDITIONS

Arthritis Pain	Athletes and Pain	Scheuermann's Kyphosis (Scheuermann's Disease)	Foot Drop (Drop Foot)
TMJ Pain	Fibromyalgia Pain	Reflex Sympathetic Dystrophy Syndrome (RSD)	Discitis
Back Pain	Pinched Nerve Pain	Trigeminal Neuralgia	Osteoarthritis
Joint Pain	Repetitive Stress Pain	Spondylosis	Discogenic Back Pain
Knee Pain	Headaches & Migraines	Tethered Spinal Cord	Epidural Abscesses
Neck Pain	Irritable Bowel Syndrome	Rheumatoid Arthritis	Fibromyalgia
Pelvic Pain	Temporomandibular Joint	Syringomyelia	Fixed Sagittal Imbalance
Cancer Pain	Coccydynia	Compression Fracture	Flatback Syndrome
Chronic Pain	Pain Doctors CARF List	Chiari Malformation	Osteomyelitis
Shingles Pain	Whiplash	Pediatric Spinal Cord Tumors	Osteopenia
Shoulder Pain	At-Home PCA	Pinched Nerve	Osteoporosis
Myofascial Pain	Neck Pain	Burst Fractures	Herniated Disc
Abdominal Pain	Wedge Fractures	Piriformis Syndrome	Kyphosis
Neuropathic Pain	Nerve Blocks	Back Pain	Lordosis

Source: <http://www.spineuniverse.com/displayarticle.php/article58.html>

## APPENDIX E: PAIN CONDITIONS

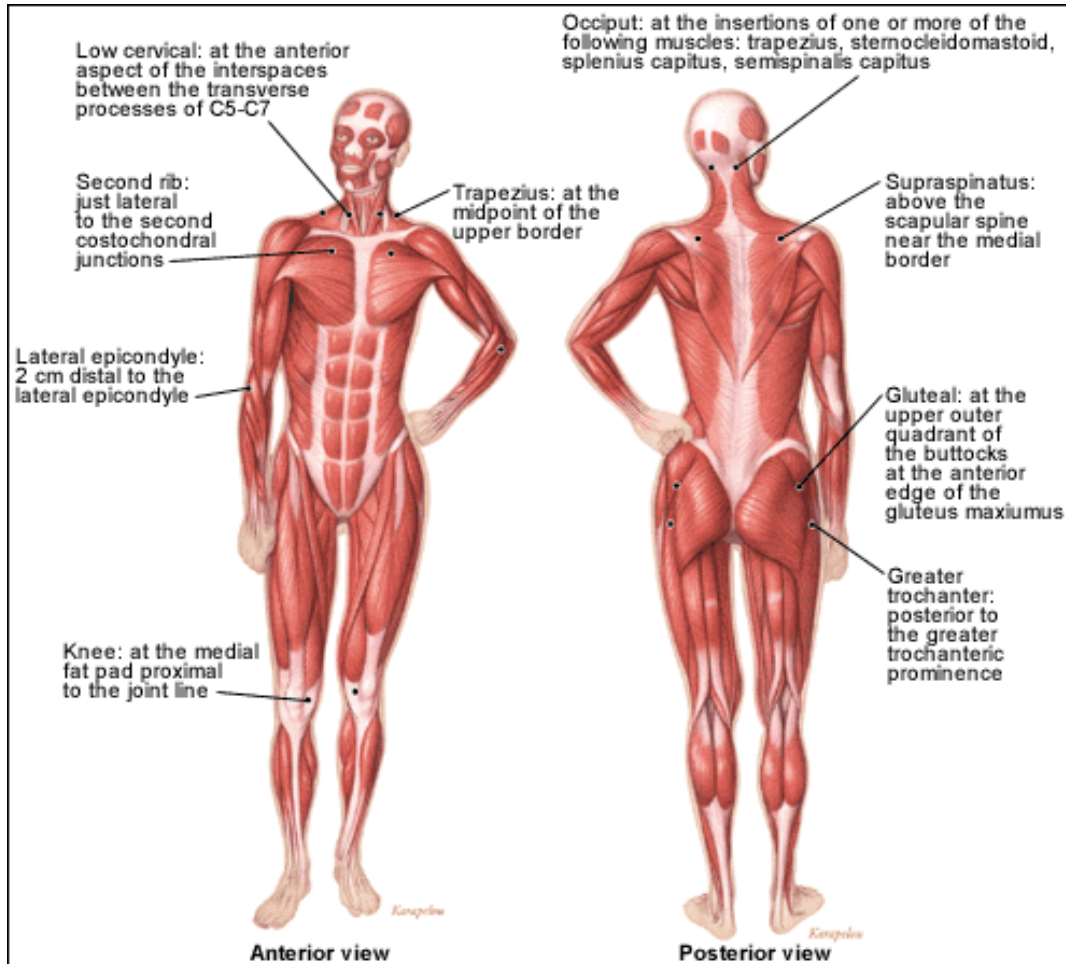
### Pain Conditions Continued

Synovial Cysts	Scoliosis	Depression and Back Pain	Drop Foot (Foot Drop) and Steppage Gait
Aging and Back Pain	Spinal Cord Injury	Degenerative Disc Disease	(Footdrop Gait)
Ankylosing Spondylitis	Spinal Stenosis	Cancer and Spinal Fractures	Arthritis and the Spine
Arachnoiditis	Spinal Tumors	Avascular Necrosis (Osteonecrosis)	Spondylolisthesis
Radiculopathy	Sciatica	Facet Joints and Low Back Pain	Lumbago

Source: <http://www.spineuniverse.com/displayarticle.php/article58.html>

## APPENDIX F

### Schematic ACR Trigger Points Fibromyalgia



Source: The American Academy of Family Physicians  
<http://www.aafp.org/aft/20001001/1575.html>

**Note:** This image is for internal use within The Rasch Foundation as this image is not for publication

## APPENDIX G - CLASSIFICATION OF FIBROMYALGIA

### American College of Rheumatology Criteria for Classification of Fibromyalgia

*Widespread pain for at least three months, defined as the presence of all of the following:*

Pain on the right and left sides of the body

Pain above and below the waist (including shoulder and buttock pain)

Pain in the axial skeleton (cervical, thoracic or lumbar spine, or anterior chest)

*Pain on palpation with a 4-kg force in 11 of the following 18 sites (nine bilateral sites, for a total of 18 sites)*

- **Occiput:** at the insertions of one or more of the following muscles: trapezius, sternocleidomastoid, splenius capitus, semispinalis capitus
- **Low cervical:** at the anterior aspect of the interspaces between the transverse processes of C5-C7
- **Trapezius:** at the midpoint of the upper border
- **Supraspinatus:** above the scapular spine near the medial border
- 
- **Second rib:** just lateral to the second costochondral junctions
- **Lateral epicondyle:** 2 cm distal to the lateral epicondyle
- **Gluteal:** at the upper outer quadrant of the buttocks at the anterior edge of the gluteus maximus muscle
- **Greater trochanter:** posterior to the greater trochanteric prominence
- **Knee:** at the medial fat pad proximal to the joint line

*NOTE: Original Author: Wolfe F, Smythe HA, Yunas MB, Bennett RM, Bombardier C, Goldenberg DL, et al. The American College of Rheumatology 1990 criteria for the classification of fibromyalgia. Report of the Multicenter Criteria Committee. Arthritis Rheum 1990;33:160-72.*

## Appendix H

### Neuropeptide, neurotransmitter, or neuromodulator changes found in cerebrospinal fluid of patients with fibromyalgia

GDNF	↓
Somatostatin	↓
NGF	↑
BDNF	↑
Glutamate	↑
β-Endorphin	↔
Anandamide	↓
Palmitoylethanolamide	↑
Norepinephrine (MHPG)	↓
Serotonin (5-HIAA)	↓
Hypocretin-1	↔
Corticotropin-releasing factor	↑
Substance P	↑
Met-enkephalin-Arg(6)-Phe(7)	↑
Nitric oxide	↑
Homocysteine	↑
Dynorphin A	↑
Legend: ↓ decrease; ↑ increase; ↔ no changes when compared	

**Reference:** Valença et al. 2009

Note: When reviewing research in the area of neurochemicals in the CNS, consider the table above

## APPENDIX I: Common Treatment for Fibromyalgia

<i>Medication</i>	<i>Description</i>	<i>Addresses</i>	<i>Side Effects</i>	<i>Approved for Use in FM (Yes/No)</i>
<b>Tricyclic anti-depressants</b>	Common Tricyclic Anti-Depressants Approved by FDA: amitriptyline (Elavil), nortriptyline (Pamelor) and imipramine (Tofranil)	Primarily used to improve sleep and decrease pain intensity	Dizziness, Dry Mouth and Possible Weight Gain	No
<b>Muscle relaxants</b>	Common Tricyclic Anti-Depressants Approved by FDA: cyclobenzaprine (Flexeril) and carisoprodol (Soma)	Treats muscle spasm, pain relief and aids in sleep		No
<b>Tramadol</b>	Tramadol (Ultram) OR tramadol/acetaminophen (Ultracet) Combination: Approved by FDA	For pain relief	Dizziness, Nausea and Constipation; Less side effects than traditional opioids	No
<b>Pregabalin (Lyrica)</b>	Lyrica Approved by FDA	Improves sleep, fatigue and treats pain	Dizziness, sleepiness and issues with concentration	Yes
<b>SSRIs</b>	Selective serotonin reuptake inhibitors (SSRIs) Approved by FDA: fluoxetine hydrochloride (Prozac), paroxetine (Paxil) and sertraline hydrochloride (Zoloft);	Treats pain and depression	Anxiety, sleep difficulty and loss of appetite	No

Source: <http://chronicfatigue.about.com>

Note: In some cases NSAIDS Non-steroid Anti-inflammatory Drugs are used but are only effective when patient has other condition with an inflammatory etiology, otherwise not effect to treat FM alone

## APPENDIX J

### Common Supplements for Fibromyalgia & Chronic Fatigue Syndrome

<b>Supplements for Energy</b>	<b>Supplements for Brain Function/Neurotransmitter Balance</b>	<b>Supplements for Pain/Tenderness</b>	<b>Supplements for Mood Problems</b>
Carnitine	5-HTP	Magnesium Malate	DHEA
CoQ10	Carnitine	Vitamin D	
Magnesium Malate	Omega-3 (Fish Oil)		
NADH	Rhodiola		
SAM-e	St. John's Wort		
Vitamin B12	SAM-e		
	Theanine		

Source <http://chronicfatigue.about.com>

## **APPENDIX K**

### **MULTIDISCIPLINARY HEALTH TEAM**

Family Physician (MD)

Nurse (RN)

Social Worker (BSW, MSW)

Orthopedic surgeon, neurosurgeon (M.D., D.O.)

Chiropractor, chiropractic (D.C.)

Pain management and pain medicine specialist (M.D., D.O.)

Physiatrist, physiatrist, physical medicine & rehabilitation (M.D., D.O.)

Osteopath, osteopathy (D.O.)

Occupational therapist (O.T.)

Psychologist, psychology (Ph.D.)

Rheumatologist, rheumatology (M.D., D.O.)

Anesthesiologist, anesthesiology (M.D.)

Neurologist, neurology (M.D.)

## APPENDIX L(a)

### SNAPSHOT OF GLOBAL RESEARCH INITIATIVES IN CHRONIC PAIN

Global			
Title	Condition	Sponsors	URL
Efficacy of Transcranial Magnetic Stimulation (TMS) in Chronic Idiopathic Pain Disorders	Fibromyalgia Irritable Bowel Syndrome Burning Mouth Syndrome	Hôpital Ambroise Paré	<a href="http://ClinicalTrials.gov/show/NCT00374673">http://ClinicalTrials.gov/show/NCT00374673</a>
Nabilone Versus Amitriptyline in Improving Quality of Sleep in Patients With Fibromyalgia	Fibromyalgia Sleep Initiation and Maintenance Disorders	McGill University Health Center	<a href="http://ClinicalTrials.gov/show/NCT00381199">http://ClinicalTrials.gov/show/NCT00381199</a>
Efficacy and Safety of SR46349B in Patients With Sleep Disorders in Fibromyalgia	Fibromyalgia Sleep Chronic Pain	Sanofi-Aventis	<a href="http://ClinicalTrials.gov/show/NCT00313885">http://ClinicalTrials.gov/show/NCT00313885</a>
Coping Skills Training for Adolescents With Fibromyalgia	Fibromyalgia	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NCT00086047">http://ClinicalTrials.gov/show/NCT00086047</a>
Transcranial Magnetic Stimulation for Treating Women With Chronic Widespread Pain	Fibromyalgia Chronic Pain Depression	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) University of Washington	<a href="http://ClinicalTrials.gov/show/NCT00524420">http://ClinicalTrials.gov/show/NCT00524420</a>
Developing Biomarkers for Fibromyalgia	Fibromyalgia	University of Michigan The Dana Foundation Department of Defense	<a href="http://ClinicalTrials.gov/show/NCT00932061">http://ClinicalTrials.gov/show/NCT00932061</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Pain Management Techniques for Fibromyalgia	Fibromyalgia	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NCT00086060">http://ClinicalTrials.gov/show/NCT00086060</a>
Clinical Study on Implicit Learning, Comorbidity and Stress Vulnerability in Chronic Functional Pain	Fibromyalgia Irritable Bowel Syndrome	University Hospital Mannheim Deutsche Forschungsgemeinschaft	<a href="http://ClinicalTrials.gov/show/NCT00222209">http://ClinicalTrials.gov/show/NCT00222209</a>
Lidocaine on Manifestations of Fibromyalgia	Fibromyalgia Chronic Pain	Federal University of São Paulo	<a href="http://ClinicalTrials.gov/show/NCT00991848">http://ClinicalTrials.gov/show/NCT00991848</a>
Vagus Nerve Stimulation for Treating Adults With Severe Fibromyalgia	Fibromyalgia	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) National Institute of Neurological Disorders and Stroke (NINDS) University of Medicine and Dentistry New Jersey	<a href="http://ClinicalTrials.gov/show/NCT00294281">http://ClinicalTrials.gov/show/NCT00294281</a>
Subgroups of Fibromyalgia Syndrome (FMS): Symptoms, Beliefs, and Tailored Treatment	Fibromyalgia	National Institutes of Health (NIH)	<a href="http://ClinicalTrials.gov/show/NCT00762125">http://ClinicalTrials.gov/show/NCT00762125</a>
Vagus Nerve Stimulation for Treating Adults With Severe Fibromyalgia	Fibromyalgia	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) National Institute of Neurological Disorders and Stroke (NINDS) University of Medicine and Dentistry New Jersey	<a href="http://ClinicalTrials.gov/show/NCT00294281">http://ClinicalTrials.gov/show/NCT00294281</a>

Title	Condition	Sponsors	URL
Tailored Treatments of Fibromyalgia	Fibromyalgia	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NCT00000422">http://ClinicalTrials.gov/show/NCT00000422</a>
Biomarkers of Homeopathy in Fibromyalgia	Fibromyalgia	National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NCT00065702">http://ClinicalTrials.gov/show/NCT00065702</a>
Study to Evaluate the Efficacy and Safety of OraVescent Fentanyl Citrate Treatment for the Management of Breakthrough Pain in Opioid-Tolerant Patients With Noncancer-Related Chronic Pain	Pain	Cephalon	<a href="http://ClinicalTrials.gov/show/NCT00343733">http://ClinicalTrials.gov/show/NCT00343733</a>
Development of Treatments Aiming at Improvement of Function in Patients With Chronic Widespread Pain	Fibromyalgia	Göteborg University The Swedish Research Council	<a href="http://ClinicalTrials.gov/show/NCT00545649">http://ClinicalTrials.gov/show/NCT00545649</a>
Repetitive Trans-Cranial Magnetic Stimulation of the Motor Cortex in Fibromyalgia: A Study Evaluating the Clinical Efficiency and the Metabolic Correlate in 18FDG-PET	Fibromyalgia	Assistance Publique Hopitaux De Marseille	<a href="http://ClinicalTrials.gov/show/NCT00697398">http://ClinicalTrials.gov/show/NCT00697398</a>
Yoga for Fibromyalgia	Fibromyalgia	Oregon Health and Science University	<a href="http://ClinicalTrials.gov/show/NCT00966732">http://ClinicalTrials.gov/show/NCT00966732</a>

Title	Condition	Sponsors	URL
Supporting Effect of Dronabinol on Behavioral Therapy in Fibromyalgia and Chronic Back Pain	Fibromyalgia Back Pain	University of Heidelberg Central Institute of Mental Health, Mannheim University of Mannheim Academic City Hospital, Germany BG-clinics Ludwigshafen Germany	<a href="http://ClinicalTrials.gov/show/NCT00176163">http://ClinicalTrials.gov/show/NCT00176163</a>
Nondrug Treatment Programs for Adults With Fibromyalgia	Fibromyalgia	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NCT00088777">http://ClinicalTrials.gov/show/NCT00088777</a>
Mindfulness-Based Stress Reduction Program as an Intervention in Patients With Fibromyalgia	Fibromyalgia	University Hospital Freiburg Samueli Institute for Information Biology	<a href="http://ClinicalTrials.gov/show/NCT00106275">http://ClinicalTrials.gov/show/NCT00106275</a>
Qigong vs. Aerobic Exercise in the Treatment of Childhood Chronic Musculoskeletal Pain	Muscular Disease Fibromyalgia	The Hospital for Sick Children	<a href="http://ClinicalTrials.gov/show/NCT00312234">http://ClinicalTrials.gov/show/NCT00312234</a>
Efficacy of Acupuncture in the Treatment of Fibromyalgia	Fibromyalgia	National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NCT00010764">http://ClinicalTrials.gov/show/NCT00010764</a>
Magnetic Resonance Spectroscopy, Perfusion and Diffusion Tensor Imaging in Neuropsychiatric Lupus	Systemic Lupus Erythematosus Fibromyalgia  Acute Neuropsychiatric Lupus	University of Michigan	<a href="http://ClinicalTrials.gov/show/NCT00723671">http://ClinicalTrials.gov/show/NCT00723671</a>

Title	Condition	Sponsors	URL
A Prevalence Study of Chronic Widespread Pain (CWP) Among Patients With Rheumatoid Arthritis (RA) and Control Population in Tallinn and Harjumaa County	Chronic Widespread Pain	Estonian Society for Rheumatology	<a href="http://ClinicalTrials.gov/show/NCT00721318">http://ClinicalTrials.gov/show/NCT00721318</a>
Brief Treatment for Temporomandibular Pain	Temporomandibular Joint Syndrome Myofascial Pain Dysfunction Syndrome, Temporomandibular Joint Orofacial Pain	National Institute of Dental and Craniofacial Research (NIDCR) University of Connecticut	<a href="http://ClinicalTrials.gov/show/NCT00067366">http://ClinicalTrials.gov/show/NCT00067366</a>
Healing Through Affective Self-Awareness in Fibromyalgia: a Randomized Controlled Trial	Fibromyalgia	University of Michigan St. John Providence Hospital Blue Care Network of Michigan	<a href="http://ClinicalTrials.gov/show/NCT00437411">http://ClinicalTrials.gov/show/NCT00437411</a>
Duloxetine for Treatment of Painful Temporomandibular Joint Disorder	Temporomandibular Joint Disorders	University of Maryland Eli Lilly and Company	<a href="http://ClinicalTrials.gov/show/NCT00981149">http://ClinicalTrials.gov/show/NCT00981149</a>
Migraine--Investigational Treatment of Migraine With Noninvasive Brain Stimulation. (tDCS-Migraine)	Migraine	Beth Israel Deaconess Medical Center	<a href="http://ClinicalTrials.gov/show/NCT00521196">http://ClinicalTrials.gov/show/NCT00521196</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Efficacy of Amitriptyline for Painful Bladder Syndrome (PBS)	Bladder Diseases Interstitial Cystitis	National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) University of Pennsylvania	<a href="http://ClinicalTrials.gov/show/NCT00124306">http://ClinicalTrials.gov/show/NCT00124306</a>
Mindfulness vs. Support Groups for Irritable Bowel Syndrome	Irritable Bowel Syndrome	National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NCT00680693">http://ClinicalTrials.gov/show/NCT00680693</a>
Shamanic Healing for Women With Temporomandibular Joint Disorders (TMDs)	Temporomandibular Disorders	National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NCT00071474">http://ClinicalTrials.gov/show/NCT00071474</a>
Alternative Medicine Approaches for Women With Temporomandibular Disorders	Temporomandibular Joint Disorders	National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NCT00009594">http://ClinicalTrials.gov/show/NCT00009594</a>
Effect of Repetitive Transcranial Direct Current Stimulation (tDCS) on Chronic Pelvic Pain	Chronic Pelvic Pain Interstitial Cystitis Post Traumatic Stress Disorder Fibromyalgia Irritable Bowel Syndrome	Summa Health System	<a href="http://ClinicalTrials.gov/show/NCT00554320">http://ClinicalTrials.gov/show/NCT00554320</a>
Trial to Evaluate the Efficacy of Topical Capsaicin to Reduce Pain and Improve Health-related Quality of Life in Adults With Chronic Myofascial Neck Pain	Myofascial Pain Syndrome	Stamford Hospital	<a href="http://ClinicalTrials.gov/show/NCT00795106">http://ClinicalTrials.gov/show/NCT00795106</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Pain Relief Investigation of Neuromodulation Therapy in an Adult Fibromyalgia Population	Fibromyalgia Pain	Fralex Therapeutics PharmaNet McDougal 1 Scientific Limited	<a href="http://ClinicalTrials.gov/show/NCT00450905">http://ClinicalTrials.gov/show/NCT00450905</a>
Proteomics of Cerebrospinal Fluid in Chronic Fatigue Syndrome	Chronic Fatigue Syndrome Fibromyalgia Gulf War Illness Multiple Chemical Sensitivity Interstitial Cystitis Irritable Bowel Syndrome	Georgetown University National Institute of Environmental Health Sciences (NIEHS)	<a href="http://ClinicalTrials.gov/show/NCT00810329">http://ClinicalTrials.gov/show/NCT00810329</a>
Web-Based Education to Enhance Fibromyalgia Management	Fibromyalgia Fibrositis	University of Michigan	<a href="http://ClinicalTrials.gov/show/NCT00423631">http://ClinicalTrials.gov/show/NCT00423631</a>
Genetics of Fibromyalgia	Fibromyalgia Irritable Bowel Syndrome Chronic Fatigue Syndrome Depression	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NCT00071162">http://ClinicalTrials.gov/show/NCT00071162</a>
Botulinum Toxin Type A (Botox) for the Treatment of Cervical Dystonia and Upper Thoracic Muscular Pain	Refractory Cervicothoracic Myofascial Pain Syndrome (CMPS) Cervical Dystonia	Vanderbilt University	<a href="http://ClinicalTrials.gov/show/NCT00178945">http://ClinicalTrials.gov/show/NCT00178945</a>
Exercise-based Motivational Interviewing for Fibromyalgia	Fibromyalgia	Indiana University	<a href="http://ClinicalTrials.gov/show/NCT00573612">http://ClinicalTrials.gov/show/NCT00573612</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Effectiveness of Physical Exercise in Women With Fibromyalgia	Fibromyalgia	Federal University of São Paulo University of Santo Amaro	<a href="http://ClinicalTrials.gov/show/NCT00498264">http://ClinicalTrials.gov/show/NCT00498264</a>
A Pilot Study of TMS Effects on Pain and Depression in Patients With Fibromyalgia	Major Depression Fibromyalgia	Medical University of South Carolina National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NCT00523302">http://ClinicalTrials.gov/show/NCT00523302</a>
Determining How the Nervous System Processes Pain in Adults With Fibromyalgia	Fibromyalgia Rheumatoid Arthritis	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NCT00496886">http://ClinicalTrials.gov/show/NCT00496886</a>
Neurotrophin to Treat Fibromyalgia	Fibromyalgia	National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NCT00366535">http://ClinicalTrials.gov/show/NCT00366535</a>
Use of Xyrem to Improve Sleep in Chronic Fatigue Syndrome	Chronic Fatigue Syndrome	University of Medicine and Dentistry New Jersey Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NCT00498485">http://ClinicalTrials.gov/show/NCT00498485</a>
Cognitive Behavioral Insomnia Therapy for Individuals With Fibromyalgia	Fibromyalgia Sleep Initiation and Maintenance Disorders	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NCT00321451">http://ClinicalTrials.gov/show/NCT00321451</a>
Pilot, Opened, Randomized Clinical Trial to Assess the Efficacy of Duloxetine in the Treatment of Fibromyalgia in Patients With Infection by HIV 1+	Fibromyalgia HIV-1 Infection	Germans Trias i Pujol Hospital FUNDACIÓ LLUITA CONTRA LA SIDA	<a href="http://ClinicalTrials.gov/show/NCT00552682">http://ClinicalTrials.gov/show/NCT00552682</a>

Title	Condition	Sponsors	URL
Efficacy Study of Low-Dose Hydrocortisone Treatment for Fibromyalgia	Fibromyalgia	Ludwig-Maximilians - University of Munich University of Zurich	<a href="http://ClinicalTrials.gov/show/NCT00236925">http://ClinicalTrials.gov/show/NCT00236925</a>
Study of Milnacipran for the Treatment of Fibromyalgia	Fibromyalgia	Forest Laboratories Cypress Bioscience, Inc.	<a href="http://ClinicalTrials.gov/show/NCT00314249">http://ClinicalTrials.gov/show/NCT00314249</a>
Study of Milnacipran for the Treatment of Fibromyalgia	Fibromyalgia	Forest Laboratories Cypress Bioscience, Inc.	<a href="http://ClinicalTrials.gov/show/NCT00098124">http://ClinicalTrials.gov/show/NCT00098124</a>
Effects of Whole-Body Vibration Exercise on Serum IGF-1 in Fibromyalgia	Fibromyalgia Hormonal Responses to Exercise in Patients With Fibromyalgia.	Institut Nacional d'Educatio Fisica de Catalunya	<a href="http://ClinicalTrials.gov/show/NCT00650715">http://ClinicalTrials.gov/show/NCT00650715</a>
Compare the Medical Conditions of Gulf War Veterans to Non-Deployed Veterans	Chronic Fatigue Syndrome Fibromyalgia Post-Traumatic Stress Disorder Neurologic Abnormalities General Health Status	Department of Veterans Affairs	<a href="http://ClinicalTrials.gov/show/NCT00032461">http://ClinicalTrials.gov/show/NCT00032461</a>
Traditional Acupuncture and Myofascial Trigger Point Dry Needling and Acupressure for Chronic Low Back Pain	Low Back Pain	Hermano Miguel Foundation Ecuadorian Federation of Physiotherapy, Tungurahua Branch Technical University of Ambato	<a href="http://ClinicalTrials.gov/show/NCT00804089">http://ClinicalTrials.gov/show/NCT00804089</a>

Title	Condition	Sponsors	URL
Glucocorticoid Effects on Cellular Cytokine Release	Depressive Disorder Fatigue Syndrome, Chronic Fibromyalgia  Healthy  Inflammation	National Institute of Mental Health (NIMH)	<a href="http://ClinicalTrials.gov/show/NCT00001415">http://ClinicalTrials.gov/show/NCT00001415</a>
Buprenorphine as a Treatment in Opiate Dependent Pain Patients	Opiate Addiction Refractory Pain	State University of New York at Buffalo	<a href="http://ClinicalTrials.gov/show/NCT00552578">http://ClinicalTrials.gov/show/NCT00552578</a>
Diagnosis and Evaluation of Patients Needing Third Molar (Wisdom Tooth) Extraction and Patients With Chronic Facial Pain	Facial Pain Temporomandibular Joint Disorder	National Institute of Dental and Craniofacial Research (NIDCR)	<a href="http://ClinicalTrials.gov/show/NCT00001600">http://ClinicalTrials.gov/show/NCT00001600</a>
Occlusal Adjustment as Treatment for Chronic Orofacial Pain	Temporomandibular Joint Disorders Orofacial Pain	University of Santiago de Compostela	<a href="http://ClinicalTrials.gov/show/NCT00899717">http://ClinicalTrials.gov/show/NCT00899717</a>
Health Promotion for Women With Fibromyalgia	Fibromyalgia	University of Texas at Austin Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)	<a href="http://ClinicalTrials.gov/show/NCT00596674">http://ClinicalTrials.gov/show/NCT00596674</a>
Efficacy of Nalbuphine and Naloxone Administered as Nose Sprays in the Treatment of Orofacial Pain	Temporomandibular Joint Dysfunction Syndrome Burning Mouth Syndrome	University of California, San Francisco	<a href="http://ClinicalTrials.gov/show/NCT00716807">http://ClinicalTrials.gov/show/NCT00716807</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Exercise and Behavioral Therapy Trial (EBT).	Persian Gulf Syndrome	Department of Veterans Affairs Department of Defense	<a href="http://ClinicalTrials.gov/show/NCT00007748">http://ClinicalTrials.gov/show/NCT00007748</a>
Biofeedback-Based Cognitive Behavioral Treatment for Temporomandibular Disorders	Temporomandibular Disorders	Philipps University Marburg Medical Center Psychotherapie-Ambulanz Marburg e.V.	<a href="http://ClinicalTrials.gov/show/NCT00769561">http://ClinicalTrials.gov/show/NCT00769561</a>
The Influence of a Stabilization Splint on the Body Posture	Temporomandibular Disorders Craniomandibular Disorders Arthromyalgia Chronic Disease Occlusal Appliance	Ernst Moritz Arndt University of Greifswald	<a href="http://ClinicalTrials.gov/show/NCT00154128">http://ClinicalTrials.gov/show/NCT00154128</a>

**Myofascial Pain Syndrome- United States**

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Paroxetine-CR (Paxil-CR) in the Treatment of Patients With Fibromyalgia Syndrome	Fibromyalgia Syndrome	Duke University GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC T00610610">http://ClinicalTrials.gov/show/NC T00610610</a>
A Study of the Efficacy and Safety of Pregabalin for the Treatment of Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC T00645398">http://ClinicalTrials.gov/show/NC T00645398</a>
A 14-Week, Multi-Center Study of [S,S]-Reboxetine in Patients With Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC T00612170">http://ClinicalTrials.gov/show/NC T00612170</a>

Title	Condition	Sponsors	URL
Safety and Efficacy Study of Pregabalin in Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00151489">http://ClinicalTrials.gov/show/NC/T00151489</a>
Assessing Efficacy and Safety of Lacosamide Compared to Placebo in Reducing Signs and Symptoms of Fibromyalgia Syndrome	Fibromyalgia Syndrome	UCB, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00401830">http://ClinicalTrials.gov/show/NC/T00401830</a>
A Study To Assess Esreboxetine's Effect On Concentration, Memory, Decision Making And Problem Solving In Patients With Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00752505">http://ClinicalTrials.gov/show/NC/T00752505</a>
The Use of Rotigotine for Treatment of Reducing Signs and Symptoms of Fibromyalgia in Adults	Fibromyalgia Syndrome	UCB, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00464737">http://ClinicalTrials.gov/show/NC/T00464737</a>
Study Evaluating the Efficacy of DVS-233 in Fibromyalgia	Fibromyalgia	Wyeth	<a href="http://ClinicalTrials.gov/show/NC/T00301431">http://ClinicalTrials.gov/show/NC/T00301431</a>
A Study for Adult Patients With Fibromyalgia	Fibromyalgia, Primary Fibromyalgia, Secondary	Eli Lilly and Company	<a href="http://ClinicalTrials.gov/show/NC/T00965081">http://ClinicalTrials.gov/show/NC/T00965081</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Study of Duloxetine Versus Placebo in the Treatment of Fibromyalgia Syndrome	Fibromyalgia	Eli Lilly and Company Boehringer Ingelheim Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00190866">http://ClinicalTrials.gov/show/NC/T00190866</a>
Efficacy and Safety of an Oral Growth Hormone Drug in the Treatment of Fibromyalgia	Fibromyalgia	Bennett, Robert, M.D. Merck	<a href="http://ClinicalTrials.gov/show/NC/T00116129">http://ClinicalTrials.gov/show/NC/T00116129</a>
Open Label Extension Study of [S,S]-Reboxetine in Patients With Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00754221">http://ClinicalTrials.gov/show/NC/T00754221</a>
Effect of Revival Soy on Fibromyalgia Pain	Fibromyalgia	Mayo Clinic Physicians Pharmaceuticals, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00279942">http://ClinicalTrials.gov/show/NC/T00279942</a>
An Open-Label Trial of Pregabalin in Patients With Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00151528">http://ClinicalTrials.gov/show/NC/T00151528</a>
A Study to Compare Two Ways of Completing Pain and Sleep Questions and to Evaluate a New Daily Questionnaire for Assessing Fatigue in Fibromyalgia Patients	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00819624">http://ClinicalTrials.gov/show/NC/T00819624</a>
Clinical Trial Testing the Safety and Efficacy of Fluoxetine in Juvenile Fibromyalgia	Juvenile Primary Fibromyalgia Syndrome (JPFS) Fibromyalgia	University of Cincinnati Arnold, Lesley, M., M.D.	<a href="http://ClinicalTrials.gov/show/NC/T00115804">http://ClinicalTrials.gov/show/NC/T00115804</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
A Controlled Pregabalin Trial In Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00230776">http://ClinicalTrials.gov/show/NC/T00230776</a>
An fMRI Study Of Brain Response In Patients With Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00760474">http://ClinicalTrials.gov/show/NC/T00760474</a>
A Safety and Efficacy Study of Xyrem® (Sodium Oxybate) to Treat Fibromyalgia	Fibromyalgia	Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00423813">http://ClinicalTrials.gov/show/NC/T00423813</a>
Clinical Trial Examining Effects of Monosodium Glutamate (MSG) on Irritable Bowel Syndrome (IBS) and Fibromyalgia (FM)	Irritable Bowel Syndrome Fibromyalgia	Oregon Health and Science University University of Arizona	<a href="http://ClinicalTrials.gov/show/NC/T00829218">http://ClinicalTrials.gov/show/NC/T00829218</a>
Exercise-based Motivational Interviewing for Fibromyalgia	Fibromyalgia	Indiana University	<a href="http://ClinicalTrials.gov/show/NC/T00573612">http://ClinicalTrials.gov/show/NC/T00573612</a>
A Safety Study Of Pregabalin In Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00282997">http://ClinicalTrials.gov/show/NC/T00282997</a>
A Pilot Study of TMS Effects on Pain and Depression in Patients With Fibromyalgia	Major Depression Fibromyalgia	Medical University of South Carolina National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NC/T00523302">http://ClinicalTrials.gov/show/NC/T00523302</a>
A Safety and Efficacy Study of Xyrem® in Subjects With Fibromyalgia	Fibromyalgia	Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00371137">http://ClinicalTrials.gov/show/NC/T00371137</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Testing Mestinon and Exercise in Fibromyalgia	Fibromyalgia	National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NC/T00535587">http://ClinicalTrials.gov/show/NC/T00535587</a>
Study of Milnacipran Added to Pregabalin for Treatment of Fibromyalgia	Fibromyalgia	Forest Laboratories	<a href="http://ClinicalTrials.gov/show/NC/T00797797">http://ClinicalTrials.gov/show/NC/T00797797</a>
Eszopiclone in the Treatment of Insomnia and Fibromyalgia	Fibromyalgia Insomnia	University of Medicine and Dentistry New Jersey Sepracor, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00392041">http://ClinicalTrials.gov/show/NC/T00392041</a>
Effects of Pregabalin (Lyrica) on Sleep Maintenance in Subjects With Fibromyalgia	Fibromyalgia Sleep Disorders	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00883740">http://ClinicalTrials.gov/show/NC/T00883740</a>
Pain Relief Investigation of Neuromodulation Therapy in an Adult Fibromyalgia Population	Fibromyalgia Pain	Fralex Therapeutics PharmaNet Mc Dougall Scientific Limited	<a href="http://ClinicalTrials.gov/show/NC/T00450905">http://ClinicalTrials.gov/show/NC/T00450905</a>
Tai Chi Mind-Body Therapy for Fibromyalgia	Fibromyalgia	National Center for Complementary and Alternative Medicine (NCCAM) American College of Rheumatology Research and Education Foundation	<a href="http://ClinicalTrials.gov/show/NC/T00515008">http://ClinicalTrials.gov/show/NC/T00515008</a>
Transcutaneous Electrical Nerve Stimulation (TENS) and Fibromyalgia (FM)	Fibromyalgia	University of Iowa Orthopedic Section of the American Physical Therapy Association	<a href="http://ClinicalTrials.gov/show/NC/T00932360">http://ClinicalTrials.gov/show/NC/T00932360</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
A Study Of Milnacipran In Patients With Fibromyalgia: Effects On 24 Hour Ambulatory Blood Pressure Monitoring	Fibromyalgia	Forest Laboratories Cypress Bioscience, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00618956">http://ClinicalTrials.gov/show/NC/T00618956</a>
Benefits of Tanning in Fibromyalgia Patients	Fibromyalgia Syndrome	Wake Forest University	<a href="http://ClinicalTrials.gov/show/NC/T00447083">http://ClinicalTrials.gov/show/NC/T00447083</a>
A Study Evaluating Desvenlafaxine Sustained Release (DVS SR) in Adult Female Outpatients With Fibromyalgia	Fibromyalgia	Wyeth	<a href="http://ClinicalTrials.gov/show/NC/T00696787">http://ClinicalTrials.gov/show/NC/T00696787</a>
Fibromyalgia Acupuncture Study	Fibromyalgia	Southern California University of Health Sciences	<a href="http://ClinicalTrials.gov/show/NC/T00882271">http://ClinicalTrials.gov/show/NC/T00882271</a>
Juvenile Primary Fibromyalgia Syndrome (JPFS) in an Adolescent Psychiatric Population	Juvenile Primary Fibromyalgia Syndrome	University of Kentucky	<a href="http://ClinicalTrials.gov/show/NC/T00909194">http://ClinicalTrials.gov/show/NC/T00909194</a>
Nutrition and Coping Education for Symptom and Weight Management for Fibromyalgia	Fibromyalgia Obesity	University of Utah	<a href="http://ClinicalTrials.gov/show/NC/T00925431">http://ClinicalTrials.gov/show/NC/T00925431</a>
Cranial Electrical Stimulation Effects on Symptoms in Persons With Fibromyalgia	Fibromyalgia	University of Virginia	<a href="http://ClinicalTrials.gov/show/NC/T00928720">http://ClinicalTrials.gov/show/NC/T00928720</a>

Title	Condition	Sponsors	URL
Pilot Study: Relaxation and Guided Imagery in Hispanic Persons Diagnosed With Fibromyalgia	Fibromyalgia Pain Functional Status Self-Efficacy Distress	Florida International University Sigma Theta Tau International (Nursing Honor Society)	<a href="http://ClinicalTrials.gov/show/NC/T00512590">http://ClinicalTrials.gov/show/NC/T00512590</a>
Levetiracetam for Treatment of Pain Associated With Fibromyalgia	Fibromyalgia	University of California, San Francisco UCB, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00254657">http://ClinicalTrials.gov/show/NC/T00254657</a>
Duloxetine Versus Placebo for Fibromyalgia	Fibromyalgia	Eli Lilly and Company	<a href="http://ClinicalTrials.gov/show/NC/T00489073">http://ClinicalTrials.gov/show/NC/T00489073</a>
Safety and Efficacy Study of Xyrem® (Sodium Oxybate) in Subjects With Fibromyalgia	Fibromyalgia	Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00423605">http://ClinicalTrials.gov/show/NC/T00423605</a>
Low Dose Naltrexone for the Treatment of Juvenile Primary Fibromyalgia Syndrome	Fibromyalgia	Stanford University	<a href="http://ClinicalTrials.gov/show/NC/T00855972">http://ClinicalTrials.gov/show/NC/T00855972</a>
Pramipexole ER vs. Placebo in Fibromyalgia	Fibromyalgia	Boehringer Ingelheim Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00689052">http://ClinicalTrials.gov/show/NC/T00689052</a>
A Pilot Study on the Use of Nociceptive Flexion Reflex for Fibromyalgia	Fibromyalgia	Indiana University	<a href="http://ClinicalTrials.gov/show/NC/T00965601">http://ClinicalTrials.gov/show/NC/T00965601</a>
HRV Biofeedback in Fibromyalgia	Fibromyalgia Syndrome	University of Medicine and Dentistry New Jersey Arthritis Foundation	<a href="http://ClinicalTrials.gov/show/NC/T00222274">http://ClinicalTrials.gov/show/NC/T00222274</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
The Role of Ribose in Patients Diagnosed With Fibromyalgia	Fibromyalgia	Bioenergy Life Science, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00566514">http://ClinicalTrials.gov/show/NC/T00566514</a>
Lifestyle Physical Activity to Reduce Pain and Fatigue in Adults With Fibromyalgia	Fibromyalgia	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)	<a href="http://ClinicalTrials.gov/show/NC/T00383084">http://ClinicalTrials.gov/show/NC/T00383084</a>
Effects of Low Dose Naltrexone in Fibromyalgia	Fibromyalgia Persian Gulf Syndrome	Stanford University American Fibromyalgia Syndrome Association	<a href="http://ClinicalTrials.gov/show/NC/T00568555">http://ClinicalTrials.gov/show/NC/T00568555</a>
Quetiapine Compared With Placebo in the Management of Fibromyalgia	Fibromyalgia	East Tennessee State University Research Foundation	<a href="http://ClinicalTrials.gov/show/NC/T00710918">http://ClinicalTrials.gov/show/NC/T00710918</a>
Promoting Health in People With Fibromyalgia	Fibromyalgia	University of Pittsburgh Department of Education	<a href="http://ClinicalTrials.gov/show/NC/T00167271">http://ClinicalTrials.gov/show/NC/T00167271</a>
Subgroups of Fibromyalgia Syndrome (FMS): Symptoms, Beliefs, and Tailored Treatment	Fibromyalgia	National Institutes of Health (NIH)	<a href="http://ClinicalTrials.gov/show/NC/T00762125">http://ClinicalTrials.gov/show/NC/T00762125</a>
Armodafinil for Fibromyalgia Fatigue	Fibromyalgia Fatigue	State University of New York - Upstate Medical University Martin Morell MD Arthritis Associates	<a href="http://ClinicalTrials.gov/show/NC/T00568919">http://ClinicalTrials.gov/show/NC/T00568919</a>
A Study Comparing Duloxetine and Placebo in the Treatment of Fibromyalgia	Fibromyalgia	Eli Lilly and Company Boehringer Ingelheim Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00673452">http://ClinicalTrials.gov/show/NC/T00673452</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Long-Term OL Study of [S,S]-RBX in Patients With Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC T00607256">http://ClinicalTrials.gov/show/NC T00607256</a>
Study Evaluating DVS SR in Patients With Fibromyalgia Syndrome	Fibromyalgia	Wyeth	<a href="http://ClinicalTrials.gov/show/NC T00424892">http://ClinicalTrials.gov/show/NC T00424892</a>
Fibromyalgia Health Outcome Study on Cost of Treatments	Fibromyalgia	Eli Lilly and Company	<a href="http://ClinicalTrials.gov/show/NC T00725101">http://ClinicalTrials.gov/show/NC T00725101</a>
Efficacy and Safety of SR46349B in Patients With Sleep Disorders in Fibromyalgia	Fibromyalgia Sleep Chronic Pain	Sanofi-Aventis	<a href="http://ClinicalTrials.gov/show/NC T00313885">http://ClinicalTrials.gov/show/NC T00313885</a>
Study of T3 for the Treatment of Fibromyalgia	Fibromyalgia	Stanford University	<a href="http://ClinicalTrials.gov/show/NC T00903877">http://ClinicalTrials.gov/show/NC T00903877</a>
Living With Fibromyalgia: Triggers,Subgroups, and a Cognitive-Behavioral and Interactive Technology-Based Intervention	Fibromyalgia	University of Pittsburgh SHRS Research Development Fund Department of Education	<a href="http://ClinicalTrials.gov/show/NC T00222690">http://ClinicalTrials.gov/show/NC T00222690</a>
A Trial Assessing The Effectiveness and Safety of [S,S]-Reboxetine in Patients With Fibromyalgia	Pain	Pfizer	<a href="http://ClinicalTrials.gov/show/NC T00357825">http://ClinicalTrials.gov/show/NC T00357825</a>
Zonisamide for Fibromyalgia & Migraine	Fibromyalgia Migraine	University of Pittsburgh Eisai Inc.	<a href="http://ClinicalTrials.gov/show/NC T00259636">http://ClinicalTrials.gov/show/NC T00259636</a>

Title	Condition	Sponsors	URL
Safety and Tolerability Study Comparing Sodium Oxybate Given as an Oral Solution to a Single-Blinded Combination of Oral Tablets Plus Oral Solution in Subjects With Fibromyalgia	Fibromyalgia	Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00803023">http://ClinicalTrials.gov/show/NC/T00803023</a>
Vagus Nerve Stimulation for Treating Adults With Severe Fibromyalgia	Fibromyalgia	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) National Institute of Neurological Disorders and Stroke (NINDS) University of Medicine and Dentistry New Jersey	<a href="http://ClinicalTrials.gov/show/NC/T00294281">http://ClinicalTrials.gov/show/NC/T00294281</a>
Effectiveness of Acupuncture in Relieving Pain Due to Fibromyalgia	Fibromyalgia	National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NC/T00142597">http://ClinicalTrials.gov/show/NC/T00142597</a>
Effect of Milnacipran on Pain Processing and Functional Magnetic Resonance Imaging (fMRI) Activation Patterns in Patients With Fibromyalgia	Fibromyalgia	Forest Laboratories	<a href="http://ClinicalTrials.gov/show/NC/T00793520">http://ClinicalTrials.gov/show/NC/T00793520</a>
Safety and Efficacy of AGN 203818 for Pain Associated With Fibromyalgia Syndrome	Fibromyalgia	Allergan	<a href="http://ClinicalTrials.gov/show/NC/T00445705">http://ClinicalTrials.gov/show/NC/T00445705</a>

Title	Condition	Sponsors	URL
An Eight Week, Double-Blind Efficacy Study of Armodafinil Augmentation to Alleviate Fibromyalgia Fatigue	Fibromyalgia, Primary	State University of New York - Upstate Medical University	<a href="http://ClinicalTrials.gov/show/NC/T00678691">http://ClinicalTrials.gov/show/NC/T00678691</a>
Duloxetine Versus Placebo in the Treatment of FMS	Fibromyalgia	Eli Lilly and Company Boehringer Ingelheim Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00233025">http://ClinicalTrials.gov/show/NC/T00233025</a>
Trial to Evaluate the Efficacy of Topical Capsaicin to Reduce Pain and Improve Health-related Quality of Life in Adults With Chronic Myofascial Neck Pain	Myofascial Pain Syndrome	Stamford Hospital	<a href="http://ClinicalTrials.gov/show/NC/T00795106">http://ClinicalTrials.gov/show/NC/T00795106</a>
Evaluation and Diagnosis of People With Pain and Fatigue Syndromes	Fatigue Fibromyalgia Pain  Complex Regional Pain Syndrome Reflex Sympathetic Dystrophy	National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NC/T00677157">http://ClinicalTrials.gov/show/NC/T00677157</a>
Effect of Repetitive Transcranial Direct Current Stimulation (tDCS) on Chronic Pelvic Pain	Chronic Pelvic Pain Interstitial Cystitis Post Traumatic Stress Disorder Fibromyalgia Irritable Bowel Syndrome	Summa Health System	<a href="http://ClinicalTrials.gov/show/NC/T00554320">http://ClinicalTrials.gov/show/NC/T00554320</a>
Efficacy & Safety Study of Natural Eggshell Membrane (NEM) for the Treatment of Joint & Connective Tissue Disorders	Osteoarthritis Fibromyalgia	ESM Technologies, LLC	<a href="http://ClinicalTrials.gov/show/NC/T00750230">http://ClinicalTrials.gov/show/NC/T00750230</a>

Title	Condition	Sponsors	URL
Transcranial Magnetic Stimulation for Treating Women With Chronic Widespread Pain	Fibromyalgia Chronic Pain Depression	National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) University of Washington	<a href="http://ClinicalTrials.gov/show/NC/T00524420">http://ClinicalTrials.gov/show/NC/T00524420</a>
Healthier Living With Arthritis Online Program	Osteoarthritis Rheumatoid Arthritis Fibromyalgia	Stanford University	<a href="http://ClinicalTrials.gov/show/NC/T00398255">http://ClinicalTrials.gov/show/NC/T00398255</a>
Magnetic Resonance Spectroscopy, Perfusion and Diffusion Tensor Imaging in Neuropsychiatric Lupus	Systemic Lupus Erythematosus Fibromyalgia  Acute Neuropsychiatric Lupus	University of Michigan	<a href="http://ClinicalTrials.gov/show/NC/T00723671">http://ClinicalTrials.gov/show/NC/T00723671</a>
Study to Evaluate the Efficacy of Botulinum Toxin Serotype A Injections for Cervicobrachial Myofascial Syndrome	Cervicobrachial Neuralgia Myofascial Pain Syndromes	University of California, Los Angeles Allergan	<a href="http://ClinicalTrials.gov/show/NC/T00241215">http://ClinicalTrials.gov/show/NC/T00241215</a>
Rheumatic Diseases and Computer Use	Rheumatoid Arthritis Fibromyalgia  Osteoarthritis	University of Pittsburgh	<a href="http://ClinicalTrials.gov/show/NC/T00177320">http://ClinicalTrials.gov/show/NC/T00177320</a>
Study Evaluating Desvenlafaxine Succinate Sustained Release (DVS SR) Vs Placebo in Peri- and Postmenopausal Women	Depression Depressive Disorder Depressive Disorder, Major	Wyeth	<a href="http://ClinicalTrials.gov/show/NC/T00369343">http://ClinicalTrials.gov/show/NC/T00369343</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Use of Xyrem to Improve Sleep in Chronic Fatigue Syndrome	Chronic Fatigue Syndrome	University of Medicine and Dentistry New Jersey Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00498485">http://ClinicalTrials.gov/show/NC/T00498485</a>
Duloxetine for Treatment of Painful Temporomandibular Joint Disorder	Temporomandibular Joint Disorders	University of Maryland Eli Lilly and Company	<a href="http://ClinicalTrials.gov/show/NC/T00981149">http://ClinicalTrials.gov/show/NC/T00981149</a>
Myofascial Pain:Acupuncture Versus Trigger Point Injection Combined With Dipyrone and Cyclobenzaprine	Myofascial Pain Syndromes	Federal University of São Paulo	<a href="http://ClinicalTrials.gov/show/NC/T00635037">http://ClinicalTrials.gov/show/NC/T00635037</a>
Irritable Bowel Syndrome (IBS) Functional Magnetic Resonance Imaging (fMRI) With Desipramine	Irritable Bowel Syndrome	Washington University School of Medicine	<a href="http://ClinicalTrials.gov/show/NC/T00880594">http://ClinicalTrials.gov/show/NC/T00880594</a>
Migraine--Investigational Treatment of Migraine With Noninvasive Brain Stimulation. (tDCS-Migraine)	Migraine	Beth Israel Deaconess Medical Center	<a href="http://ClinicalTrials.gov/show/NC/T00521196">http://ClinicalTrials.gov/show/NC/T00521196</a>
Does Small Intestinal Bacterial Overgrowth Contribute to Functional Dyspepsia	Functional Dyspepsia Small Intestinal Bacterial Overgrowth  Chronic Abdominal Discomfort	National Institutes of Health (NIH)	<a href="http://ClinicalTrials.gov/show/NC/T00956397">http://ClinicalTrials.gov/show/NC/T00956397</a>
Using Heart Rate Variability Biofeedback to Improve Attention and Memory in PTSD+ Combat Veterans	PTSD	William Jennings Bryan Dorn VA Medical Center	<a href="http://ClinicalTrials.gov/show/NC/T00625105">http://ClinicalTrials.gov/show/NC/T00625105</a>

Title	Condition	Sponsors	URL
Mindfulness vs. Support Groups for Irritable Bowel Syndrome	Irritable Bowel Syndrome	National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NC T00680693">http://ClinicalTrials.gov/show/NC T00680693</a>
Efficacy of Nalbuphine and Naloxone Administered as Nose Sprays in the Treatment of Orofacial Pain	Temporomandibular Joint Dysfunction Syndrome Burning Mouth Syndrome	University of California, San Francisco	<a href="http://ClinicalTrials.gov/show/NC T00716807">http://ClinicalTrials.gov/show/NC T00716807</a>
Effects of Masseter Manual Therapy on Temporomandibular Dysfunction	Temporomandibular Joint Temporomandibular Joint Dysfunction Syndrome Temporomandibular Joint Disorder	Logan College of Chiropractic	<a href="http://ClinicalTrials.gov/show/NC T00870922">http://ClinicalTrials.gov/show/NC T00870922</a>
Nasal Carbon Dioxide (CO2)for the Treatment of Temporomandibular Disorders (TMD)Related Pain	Temporomandibular Disorders Pain Headaches	Capnia, Inc.	<a href="http://ClinicalTrials.gov/show/NC T00484029">http://ClinicalTrials.gov/show/NC T00484029</a>
Managing Temporomandibular Disorder (TMD) Symptoms	Temporomandibular Joint Disorders	National Institute of Dental and Craniofacial Research (NIDCR)	<a href="http://ClinicalTrials.gov/show/NC T00237042">http://ClinicalTrials.gov/show/NC T00237042</a>
A Comparison of Arthrocentesis, Arthroscopy and Arthroplasty in the Treatment of Temporomandibular Joint Dysfunction	Temporomandibular Joint Dysfunction	Emory University	<a href="http://ClinicalTrials.gov/show/NC T00636727">http://ClinicalTrials.gov/show/NC T00636727</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Physical Therapy in Women With Interstitial Cystitis	Interstitial Cystitis Painful Bladder Syndrome	National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) University of Pennsylvania	<a href="http://ClinicalTrials.gov/show/NC T00733603">http://ClinicalTrials.gov/show/NC T00733603</a>
<b>Myofascial Pain Syndrome- Canada</b>			
<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Randomized, Double-Blind, Placebo-Controlled Trial Of Pregabalin In Patients With Fibromyalgia.	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC T00333866">http://ClinicalTrials.gov/show/NC T00333866</a>
A Study of Duloxetine in the Treatment of Fibromyalgia	Fibromyalgia	Eli Lilly and Company Boehringer Ingelheim Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC T00125892">http://ClinicalTrials.gov/show/NC T00125892</a>
Nabilone Versus Amitriptyline in Improving Quality of Sleep in Patients With Fibromyalgia	Fibromyalgia Sleep Initiation and Maintenance Disorders	McGill University Health Center	<a href="http://ClinicalTrials.gov/show/NC T00381199">http://ClinicalTrials.gov/show/NC T00381199</a>
Effects of Pregabalin (Lyrica) on Sleep Maintenance in Subjects With Fibromyalgia	Fibromyalgia Sleep Disorders	Pfizer	<a href="http://ClinicalTrials.gov/show/NC T00883740">http://ClinicalTrials.gov/show/NC T00883740</a>
Pain Relief Investigation of Neuromodulation Therapy in an Adult Fibromyalgia Population	Fibromyalgia Pain	Fralex Therapeutics PharmaNet Mc Dougall Scientific Limited	<a href="http://ClinicalTrials.gov/show/NC T00450905">http://ClinicalTrials.gov/show/NC T00450905</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
A Trial Assessing the Effect of Nabilone on Pain and Quality of Life in Patients With Fibromyalgia	Fibromyalgia	Winnipeg Regional Health Authority Valeant Canada Limited	<a href="http://ClinicalTrials.gov/show/NC/T00272207">http://ClinicalTrials.gov/show/NC/T00272207</a>
Quetiapine (Seroquel XR) for the Treatment of Fibromyalgia: a Clinical and Mechanistic Pilot Study	Fibromyalgia	Universitaire de Sherbrooke University of Montreal	<a href="http://ClinicalTrials.gov/show/NC/T00983320">http://ClinicalTrials.gov/show/NC/T00983320</a>
Qigong For Treatment Of Fibromyalgia	Fibromyalgia Pain	Capital District Health Authority, Canada	<a href="http://ClinicalTrials.gov/show/NC/T00938834">http://ClinicalTrials.gov/show/NC/T00938834</a>
<b>Myofascial Pain Syndrome- Canada</b>			
<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
This Study is An Open-Label Trial Of Pregabalin In Patients With Fibromyalgia	Fibromyalgia	Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00346034">http://ClinicalTrials.gov/show/NC/T00346034</a>
A Study of Quetiapine Fumarate Sustained Release in Major Depression With Comorbid Fibromyalgia Syndrome	Major Depression	Dr Alexander McIntyre Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00675896">http://ClinicalTrials.gov/show/NC/T00675896</a>

<b>Myofascial Pain Syndrome- UK</b>			
<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Fibromyalgia Study In Adults	Fibromyalgia Pain	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00256893">http://ClinicalTrials.gov/show/NC/T00256893</a>
A Safety and Efficacy Study of Xyrem® (Sodium Oxybate) to Treat Fibromyalgia.	Fibromyalgia	Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00423813">http://ClinicalTrials.gov/show/NC/T00423813</a>
A Multicentre Trial to Determine the Efficacy and Safety of AD-337 in the Treatment of Fibromyalgia	Fibromyalgia	Sosei	<a href="http://ClinicalTrials.gov/show/NC/T00377039">http://ClinicalTrials.gov/show/NC/T00377039</a>
A Multicentre Trial to Determine the Efficacy and Safety of Milnacipran in the Treatment of Fibromyalgia Syndrome	Fibromyalgia Syndrome	Pierre Fabre Medicament	<a href="http://ClinicalTrials.gov/show/NC/T00436033">http://ClinicalTrials.gov/show/NC/T00436033</a>
<b>Irritable Bowel Syndrome- US</b>			
<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
A Study of 3 Doses of Dextofisopam in Females With Irritable Bowel Syndrome	Irritable Bowel Syndrome	Pharmos	<a href="http://ClinicalTrials.gov/show/NC/T00486876">http://ClinicalTrials.gov/show/NC/T00486876</a>
Diarrhea Predominant Irritable Bowel Syndrome in Females	Irritable Bowel Syndrome	Trine Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00461526">http://ClinicalTrials.gov/show/NC/T00461526</a>

Title	Condition	Sponsors	URL
Asimadoline for the Treatment of Subjects With Irritable Bowel Syndrome	Irritable Bowel Syndrome	Tioga Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00454688">http://ClinicalTrials.gov/show/NC/T00454688</a>
A Study of Crofelmor to Treat Diarrhea Irritable Bowel Syndrome	Irritable Bowel Syndrome Colonic Diseases Diarrhea  Gastrointestinal Disease	Tioga Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00101725">http://ClinicalTrials.gov/show/NC/T00101725</a>
Nursing Management of Irritable Bowel Syndrome:Improving Outcomes	Irritable Bowel Syndrome	University of Washington National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NC/T00167635">http://ClinicalTrials.gov/show/NC/T00167635</a>
Eight-Weeks Of Treatment With Talnetant In Subjects With Irritable Bowel Syndrome (IBS)	Irritable Bowel Syndrome	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00101985">http://ClinicalTrials.gov/show/NC/T00101985</a>
Long-Term Safety of Renzapride in Women With Constipation-Predominant Irritable Bowel Syndrome (IBS-C)	Constipation-Predominant Irritable Bowel Syndrome	Alizyme	<a href="http://ClinicalTrials.gov/show/NC/T00607971">http://ClinicalTrials.gov/show/NC/T00607971</a>
An Open-Label, Long-Term Safety Study of Linaclotide in Patients With Chronic Constipation or Irritable Bowel Syndrome With Constipation	Chronic Constipation Irritable Bowel Syndrome With Constipation	Forest Laboratories Ironwood Pharmaceuticals, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00765999">http://ClinicalTrials.gov/show/NC/T00765999</a>

Title	Condition	Sponsors	URL
Safety Study of Probiotics in Adults With Irritable Bowel Syndrome	Irritable Bowel Syndrome	National Institute of Nursing Research (NINR) University of Washington	<a href="http://ClinicalTrials.gov/show/NC T00971711">http://ClinicalTrials.gov/show/NC T00971711</a>
Safety and Efficacy of AST-120 in Patients With Non-Constipating Irritable Bowel Syndrome	Irritable Bowel Syndrome	Ocera Therapeutics	<a href="http://ClinicalTrials.gov/show/NC T00583128">http://ClinicalTrials.gov/show/NC T00583128</a>
Study to Assess the Efficacy and Safety of Rifaximin Administered BID in the Treatment of Patients With Diarrhea-Associated Irritable Bowel Syndrome	Irritable Bowel Syndrome	Salix Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC T00269412">http://ClinicalTrials.gov/show/NC T00269412</a>
Study of LX1031 in Subjects With Non-Constipating Irritable Bowel Syndrome	Irritable Bowel Syndrome	Lexicon Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC T00813098">http://ClinicalTrials.gov/show/NC T00813098</a>
Randomized Placebo Controlled Efficacy And Safety Study Investigating GW876008 In Patients With Irritable Bowel Syndrome	Irritable Bowel Syndrome	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC T00421707">http://ClinicalTrials.gov/show/NC T00421707</a>

Title	Condition	Sponsors	URL
Efficacy, Safety and Tolerability of DNK333 (25 and 100 mg Bid) in Women With Diarrhea-Predominant Irritable Bowel Syndrome (IBS-D)	Irritable Bowel Syndrome	Novartis	<a href="http://ClinicalTrials.gov/show/NC/T00699166">http://ClinicalTrials.gov/show/NC/T00699166</a>
Trial of Linaclotide in Patients With Irritable Bowel Syndrome With Constipation (IBS-C)	Irritable Bowel Syndrome With Constipation	Ironwood Pharmaceuticals, Inc. Forest Laboratories	<a href="http://ClinicalTrials.gov/show/NC/T00938717">http://ClinicalTrials.gov/show/NC/T00938717</a>
An Open-label, Long-term Safety Study of Linaclotide in Patients With Chronic Constipation or Irritable Bowel Syndrome With Constipation	Irritable Bowel Syndrome With Constipation Chronic Constipation	Ironwood Pharmaceuticals, Inc. Forest Laboratories	<a href="http://ClinicalTrials.gov/show/NC/T00730171">http://ClinicalTrials.gov/show/NC/T00730171</a>
Curcumin (Turmeric) in the Treatment of Irritable Bowel Syndrome: A Randomized-Controlled Trial	Irritable Bowel Syndrome	Kaiser Permanente	<a href="http://ClinicalTrials.gov/show/NC/T00779493">http://ClinicalTrials.gov/show/NC/T00779493</a>
An Open-Label Trial of Duloxetine for the Treatment of Irritable Bowel Syndrome	Irritable Bowel Syndrome	McLean Hospital Eli Lilly and Company	<a href="http://ClinicalTrials.gov/show/NC/T00401258">http://ClinicalTrials.gov/show/NC/T00401258</a>
An Open Label Trial of Duloxetine in the Treatment of Irritable Bowel Syndrome and Comorbid Generalized Anxiety Disorder	Irritable Bowel Syndrome Generalized Anxiety Disorder	West Penn Allegheny Health System	<a href="http://ClinicalTrials.gov/show/NC/T00961298">http://ClinicalTrials.gov/show/NC/T00961298</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Characterization of Pain Processing Mechanisms in Irritable Bowel Syndrome	Irritable Bowel Syndrome	Department of Veterans Affairs	<a href="http://ClinicalTrials.gov/show/NC/T00108446">http://ClinicalTrials.gov/show/NC/T00108446</a>
A Study of BMS-562086 in Patients With Irritable Bowel Syndrome	Irritable Bowel Syndrome	Bristol-Myers Squibb	<a href="http://ClinicalTrials.gov/show/NC/T00399438">http://ClinicalTrials.gov/show/NC/T00399438</a>
Pilot Study to Assess the Effects of AV608 on Irritable Bowel Syndrome	Irritable Bowel Syndrome (IBS)	Avera Pharmaceuticals University of California, Los Angeles	<a href="http://ClinicalTrials.gov/show/NC/T00316550">http://ClinicalTrials.gov/show/NC/T00316550</a>
Clinical Trial Examining Effects of Monosodium Glutamate (MSG) on Irritable Bowel Syndrome (IBS) and Fibromyalgia (FM)	Irritable Bowel Syndrome Fibromyalgia	Oregon Health and Science University University of Arizona	<a href="http://ClinicalTrials.gov/show/NC/T00829218">http://ClinicalTrials.gov/show/NC/T00829218</a>
Effects of a Very Low Carbohydrate Diet on Symptoms of Irritable Bowel Syndrome (IBS)	Diarrhea Predominant Irritable Bowel Syndrome	The University of North Carolina, Chapel Hill	<a href="http://ClinicalTrials.gov/show/NC/T00616200">http://ClinicalTrials.gov/show/NC/T00616200</a>
Paroxetine - Controlled Release in the Treatment of Irritable Bowel Syndrome (IBS)	Irritable Bowel Syndrome	Duke University GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00610909">http://ClinicalTrials.gov/show/NC/T00610909</a>
Effect of Asimadoline, a Member of a New Medication Class, on Acute Attacks of Pain in Irritable Bowel Syndrome	Irritable Bowel Syndrome	Mayo Clinic Lawrence A Szarka Jean C Fox	<a href="http://ClinicalTrials.gov/show/NC/T00955994">http://ClinicalTrials.gov/show/NC/T00955994</a>

Title	Condition	Sponsors	URL
Citalopram in Irritable Bowel Syndrome	Irritable Bowel Syndrome	University of California, San Francisco	<a href="http://ClinicalTrials.gov/show/NC/T00477165">http://ClinicalTrials.gov/show/NC/T00477165</a>
A Six-Month Study to Compare Outcome Differences and Visceral Response ... Irritable Bowel Syndrome	Irritable Bowel Syndrome	National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NC/T00368771">http://ClinicalTrials.gov/show/NC/T00368771</a>
Rifaximin TID for Non-Constipation Irritable Bowel Syndrome (IBS)	Non-Constipation Irritable Bowel Syndrome	Salix Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00731679">http://ClinicalTrials.gov/show/NC/T00731679</a>
A Placebo-Controlled Trial of Pregabalin (Lyrica) for Irritable Bowel Syndrome	Irritable Bowel Syndrome	Mayo Clinic Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00977197">http://ClinicalTrials.gov/show/NC/T00977197</a>
A Placebo-Controlled Trial of St. John's Wort for Irritable Bowel Syndrome	Irritable Bowel Syndrome	Mayo Clinic	<a href="http://ClinicalTrials.gov/show/NC/T00587860">http://ClinicalTrials.gov/show/NC/T00587860</a>
Use of Functional Magnetic Resonance Imaging (fMRI) to Study Brain Activation in Children With Irritable Bowel Syndrome	Irritable Bowel Syndrome	Medical College of Wisconsin	<a href="http://ClinicalTrials.gov/show/NC/T00677976">http://ClinicalTrials.gov/show/NC/T00677976</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Trial Comparing Neomycin to Rifaximin Plus Neomycin in the Treatment of Methane Positive Subjects With Constipation Predominant Irritable Bowel Syndrome (C-IBS)	Constipation Predominant Irritable Bowel Syndrome	Cedars-Sinai Medical Center Salix Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00945334">http://ClinicalTrials.gov/show/NC/T00945334</a>
The Use of VSL#3 in Irritable Bowel Syndrome in Children	Irritable Bowel Syndrome	Children's Medical Center of Dayton National Institutes of Health (NIH)	<a href="http://ClinicalTrials.gov/show/NC/T00932841">http://ClinicalTrials.gov/show/NC/T00932841</a>
Irritable Bowel Syndrome (IBS) Functional Magnetic Resonance Imaging (fMRI) With Desipramine	Irritable Bowel Syndrome	Washington University School of Medicine	<a href="http://ClinicalTrials.gov/show/NC/T00880594">http://ClinicalTrials.gov/show/NC/T00880594</a>
Randomized, Double-Blind, Dose-Range-Finding, Phase 2 Study of Linaclotide Administered to Patients With IBS-C	Irritable Bowel Syndrome With Constipation	Ironwood Pharmaceuticals, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00460811">http://ClinicalTrials.gov/show/NC/T00460811</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Study to Determine the Effectiveness of the Probiotic E. Coli Strain M17 in Treating Irritable Bowel Syndrome (IBS)	Irritable Bowel Syndrome	Weill Medical College of Cornell University BioBalance Corporation	<a href="http://ClinicalTrials.gov/show/NC/T00194922">http://ClinicalTrials.gov/show/NC/T00194922</a>
Efficacy, Safety and Tolerability of DNK333 (25 mg Bid) in Women With Diarrhea-Predominant Irritable Bowel Syndrome (IBS-D)	Irritable Bowel Syndrome With Diarrhea (IBS-D)	Novartis	<a href="http://ClinicalTrials.gov/show/NC/T00394173">http://ClinicalTrials.gov/show/NC/T00394173</a>
Nursing Management of Irritable Bowel Syndrome (IBS) 2008	Irritable Bowel Syndrome	University of Washington National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NC/T00907790">http://ClinicalTrials.gov/show/NC/T00907790</a>
Acupuncture/Moxibustion for Irritable Bowel Syndrome (IBS)	Irritable Bowel Syndrome	New York University National Institutes of Health (NIH)	<a href="http://ClinicalTrials.gov/show/NC/T00945074">http://ClinicalTrials.gov/show/NC/T00945074</a>
A Study of the Safety and Effectiveness of DDP733 in Treating IBS With Constipation in Females	Irritable Bowel Syndrome	Dynogen Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00547469">http://ClinicalTrials.gov/show/NC/T00547469</a>
Phase 2 Study of MD-1100 Acetate on Gastrointestinal Transit in Patients With C-IBS	Irritable Bowel Syndrome	Ironwood Pharmaceuticals, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00258193">http://ClinicalTrials.gov/show/NC/T00258193</a>

Title	Condition	Sponsors	URL
Efficacy Study of Rezular (Arverapamil) in the Treatment of Irritable Bowel Syndrome With Diarrhea (IBS-D)	Irritable Bowel Syndrome With Diarrhea	AGI Therapeutics, Inc.	<a href="http://ClinicalTrials.gov/show/NC T00552565">http://ClinicalTrials.gov/show/NC T00552565</a>
The Effect of Tegaserod on Patterns of Flow in the Small Bowel of Patients With Irritable Bowel Syndrome (IBS)	Constipation Predominant - Irritable Bowel Syndrome (IBS-C)	Novartis	<a href="http://ClinicalTrials.gov/show/NC T00171431">http://ClinicalTrials.gov/show/NC T00171431</a>
Recurrent Abdominal Pain in Children	Abdominal Pain Irritable Bowel Syndrome	National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NC T00526903">http://ClinicalTrials.gov/show/NC T00526903</a>
Gulf War Digestive Health Study	Irritable Bowel Syndrome	Department of Veterans Affairs	<a href="http://ClinicalTrials.gov/show/NC T00680836">http://ClinicalTrials.gov/show/NC T00680836</a>
Effect of Acupuncture on Symptoms of Diarrhea and Pain in IBS	Irritable Bowel Syndrome	Penn State University American College of Gastroenterology	<a href="http://ClinicalTrials.gov/show/NC T00219505">http://ClinicalTrials.gov/show/NC T00219505</a>
Safety and Efficacy of Oral AGN 203818 for the Relief of Irritable Bowel Syndrome Pain	Irritable Bowel Syndrome	Allergan	<a href="http://ClinicalTrials.gov/show/NC T00441766">http://ClinicalTrials.gov/show/NC T00441766</a>
Effect of Menstrual Cycle on CNS Processing of Gut Stimuli in IBS and Control	Effect of Menstrual Cycle on CNS Processing of Gut Stimuli in IBS and Control	Penn State University National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) American College of Gastroenterology	<a href="http://ClinicalTrials.gov/show/NC T00219531">http://ClinicalTrials.gov/show/NC T00219531</a>

Title	Condition	Sponsors	URL
Does Welchol (Colesevelam Hydrochloride) Improve Colonic Transit in D-IBS?	Irritable Bowel Syndrome Diarrhea	Mayo Clinic National Institutes of Health (NIH)	<a href="http://ClinicalTrials.gov/show/NC/T00911612">http://ClinicalTrials.gov/show/NC/T00911612</a>
8 Weeks Treatment With DDP225 in Patients With Diarrhea Predominant IBS	Irritable Bowel Syndrome	Dynogen Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00230581">http://ClinicalTrials.gov/show/NC/T00230581</a>
Rifaximin 3 Times/Day for Non-Constipation IBS	Non-Constipation Irritable Bowel Syndrome	Salix Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00724126">http://ClinicalTrials.gov/show/NC/T00724126</a>
Feasibility and Reproducibility of Barostat Assessments of Colorectal Sensation During Colorectal Distention and Its Pharmacological Modulation Using Octreotide	Irritable Bowel Syndrome	Novartis	<a href="http://ClinicalTrials.gov/show/NC/T00584298">http://ClinicalTrials.gov/show/NC/T00584298</a>
Mindfulness-Based Stress Reduction for Bowel Symptoms: Collection of Pilot Survey Data	Irritable Bowel Syndrome	Seattle Institute for Biomedical and Clinical Research None	<a href="http://ClinicalTrials.gov/show/NC/T00880256">http://ClinicalTrials.gov/show/NC/T00880256</a>
Cheno Effect on Transit in Health and IBS-C	Constipation-Predominant Irritable Bowel Syndrome	Mayo Clinic	<a href="http://ClinicalTrials.gov/show/NC/T00912301">http://ClinicalTrials.gov/show/NC/T00912301</a>
Study On The Effect Of GW876008 On Cerebral Blood Flow In Irritable Bowel Syndrome (IBS) Patients And Healthy Volunteers	Irritable Bowel Syndrome	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00376896">http://ClinicalTrials.gov/show/NC/T00376896</a>

Title	Condition	Sponsors	URL
Intestinal Microecology in Chronic Constipation	Chronic Constipation Irritable Bowel Syndrome	Mayo Clinic Arizona State University Takeda Pharmaceuticals North America, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00934479">http://ClinicalTrials.gov/show/NC/T00934479</a>
A Study To Investigate The Effect Of Solabegron (GW427353) On Gastrointestinal Transit In Healthy Volunteers	Irritable Bowel Syndrome (IBS)	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00401479">http://ClinicalTrials.gov/show/NC/T00401479</a>
Randomized Controlled Trial of Treating Rectal Hypersensitivity - Comparing Escitalopram With Sensory Adaptation Training	Rectal Hypersensitivity Irritable Bowel Syndrome-Constipation	University of Iowa	<a href="http://ClinicalTrials.gov/show/NC/T00584571">http://ClinicalTrials.gov/show/NC/T00584571</a>
Proteomics of Cerebrospinal Fluid in Chronic Fatigue Syndrome	Chronic Fatigue Syndrome Fibromyalgia Gulf War Illness Multiple Chemical Sensitivity Interstitial Cystitis Irritable Bowel Syndrome	Georgetown University National Institute of Environmental Health Sciences (NIEHS)	<a href="http://ClinicalTrials.gov/show/NC/T00810329">http://ClinicalTrials.gov/show/NC/T00810329</a>
Effect of Repetitive Transcranial Direct Current Stimulation (tDCS) on Chronic Pelvic Pain	Chronic Pelvic Pain Interstitial Cystitis Post Traumatic Stress Disorder Fibromyalgia Irritable Bowel Syndrome	Summa Health System	<a href="http://ClinicalTrials.gov/show/NC/T00554320">http://ClinicalTrials.gov/show/NC/T00554320</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Integrating Targeted MedlinePlus Health Prescriptions Into Clinic Practice Workflow	Allergic Rhinitis Asthma Back Pain Benign Prostatic Hypertrophy Bursitis Depression Anxiety Diabetes Mellitus Esophageal Reflux HIV Infections Hyperlipidemia Hypertension Insomnia Irritable Bowel Syndrome Obesity Osteoporosis (Senile) Shoulder Pain Sinusitis Symptomatic Menopause Urinary Incontinence Urinary Tract Infection Vaginitis	University of Missouri-Columbia National Library of Medicine (NLM)	<a href="http://ClinicalTrials.gov/show/NC/T00634608">http://ClinicalTrials.gov/show/NC/T00634608</a>
Brain-Gut Interactions in Overweight and Normal Weight Patients With Chronic Abdominal Pain	Obesity Stress Irritable Bowel Syndrome	National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NC/T00824941">http://ClinicalTrials.gov/show/NC/T00824941</a>
AcuGraph and Digestive Symptoms	Digestive Disorders Irritable Bowel Syndrome  Constipation Diarrhea	Logan College of Chiropractic	<a href="http://ClinicalTrials.gov/show/NC/T00846794">http://ClinicalTrials.gov/show/NC/T00846794</a>
Efficacy of Probiotic Bacteria in Subjects With IBS or Functional Diarrhea/ Bloating	Pain	University of North Carolina Danisco	<a href="http://ClinicalTrials.gov/show/NC/T00618904">http://ClinicalTrials.gov/show/NC/T00618904</a>
Infectious Agents in Pediatric Crohn's	Crohn's Disease Inflammatory Bowel Disease	National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)	<a href="http://ClinicalTrials.gov/show/NC/T00237055">http://ClinicalTrials.gov/show/NC/T00237055</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Melatonin & Ulcerative Colitis	Ulcerative Colitis	Emory University	<a href="http://ClinicalTrials.gov/show/NC/T00790478">http://ClinicalTrials.gov/show/NC/T00790478</a>
ETEC Logistics Trial (TREK)	Diarrhea	Intercell USA, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00516659">http://ClinicalTrials.gov/show/NC/T00516659</a>
Does Small Intestinal Bacterial Overgrowth Contribute to Functional Dyspepsia	Functional Dyspepsia Small Intestinal Bacterial Overgrowth Chronic Abdominal Discomfort	National Institutes of Health (NIH)	<a href="http://ClinicalTrials.gov/show/NC/T00956397">http://ClinicalTrials.gov/show/NC/T00956397</a>
Clinical Approaches to Ileal Pouch Dysfunction	Pouchitis	National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)	<a href="http://ClinicalTrials.gov/show/NC/T00293553">http://ClinicalTrials.gov/show/NC/T00293553</a>
Development of Limited Contact CBT Treatment for IBS	Irritable Bowel Syndrome	National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)	<a href="http://ClinicalTrials.gov/show/NC/T00248586">http://ClinicalTrials.gov/show/NC/T00248586</a>
Investigation of Dietary Absorptive Capacity of Fructans in Healthy Subjects - A Dose Response Study	Healthy Volunteers	University of Iowa American Gastroenterological Association Foundation	<a href="http://ClinicalTrials.gov/show/NC/T00988403">http://ClinicalTrials.gov/show/NC/T00988403</a>
Phase 2 Study of MD-1100 Acetate Administered for 14 Days to Patients Meeting Criteria for Chronic Constipation	Constipation	Ironwood Pharmaceuticals, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00306748">http://ClinicalTrials.gov/show/NC/T00306748</a>

**Irritable Bowel Syndrome- Canada**

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Efficacy of Probaclac in Irritable Bowel Syndrome in Children Aged 8 to 18 Years	Irritable Bowel Syndrome	St. Justine's Hospital Nicar Inc.	<a href="http://ClinicalTrials.gov/show/NC T00793494">http://ClinicalTrials.gov/show/NC T00793494</a>
A Study to Evaluate the Safety, Tolerability and Pharmacodynamics of DDP733 for IBS-c	Irritable Bowel Syndrome With Constipation Irritable Bowel Syndrome	Dynogen Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC T00215566">http://ClinicalTrials.gov/show/NC T00215566</a>
Chronic Gastrointestinal Sequelae of an Acute Outbreak of Bacterial Gastroenteritis in Walkerton Ontario	Irritable Bowel Syndrome	McMaster University	<a href="http://ClinicalTrials.gov/show/NC T00235326">http://ClinicalTrials.gov/show/NC T00235326</a>

**Irritable Bowel Syndrome- UK**

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Efficacy of an Encapsulated Probiotic Bifidobacterium Infantis 35624 in Irritable Bowel Syndrome	Irritable Bowel Syndrome	Procter and Gamble Alimentary Health Ltd	<a href="http://ClinicalTrials.gov/show/NC/T00135031">http://ClinicalTrials.gov/show/NC/T00135031</a>
Investigation of the Safety and Efficacy of Renzapride in Constipation Predominant Irritable Bowel Syndrome (IBS)	Irritable Bowel Syndrome	Alizyme	<a href="http://ClinicalTrials.gov/show/NC/T00268879">http://ClinicalTrials.gov/show/NC/T00268879</a>
Management of Irritable Bowel Syndrome in Primary Care (MIBS Trial)	Irritable Bowel Syndrome	University of Southampton National Institute for Health Research, United Kingdom	<a href="http://ClinicalTrials.gov/show/NC/T00934973">http://ClinicalTrials.gov/show/NC/T00934973</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
DARWIN Study: A Randomization/Withdrawal Efficacy Study of Dexloiglumide in Constipation-Predominant Irritable Bowel Syndrome (C-IBS)	Irritable Bowel Syndrome	Rottapharm	<a href="http://ClinicalTrials.gov/show/NC/T00220090">http://ClinicalTrials.gov/show/NC/T00220090</a>
Ibodutant for Relief of Irritable Bowel Syndrome (IRIS)	Irritable Bowel Syndrome	Menarini Group	<a href="http://ClinicalTrials.gov/show/NC/T00761007">http://ClinicalTrials.gov/show/NC/T00761007</a>
Effects Of GW876008 On The Bowel In Patients With Irritable Bowel Syndrome	Irritable Bowel Syndrome	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00385099">http://ClinicalTrials.gov/show/NC/T00385099</a>
Saccharomyces Cerevisiae CNCM I-3856 Treatment in Irritable Bowel Syndrome With Diarrhea (IBS-D) and Post Infective Bowel Dysfunction	Irritable Bowel Syndrome Post Infective Bowel Dysfunction	University of Nottingham Lesaffre International, Marcq-en-Baroeul, France	<a href="http://ClinicalTrials.gov/show/NC/T00977587">http://ClinicalTrials.gov/show/NC/T00977587</a>
Manipulation of Visceral Sensitivity and Immune System in IBS	Irritable Bowel Syndrome	North West London Hospitals NHS Trust	<a href="http://ClinicalTrials.gov/show/NC/T00418340">http://ClinicalTrials.gov/show/NC/T00418340</a>

Title	Condition	Sponsors	URL
Constipation Associated With Irritable Bowel Syndrome (IBS-C)	Constipation	Norgine	<a href="http://ClinicalTrials.gov/show/NC/T00796354">http://ClinicalTrials.gov/show/NC/T00796354</a>
Feasibility and Reproducibility of Barostat Assessments of Colorectal Sensation During Colorectal Distention and Its Pharmacological Modulation Using Octreotide	Irritable Bowel Syndrome (IBS)	Novartis	<a href="http://ClinicalTrials.gov/show/NC/T00584298">http://ClinicalTrials.gov/show/NC/T00584298</a>
Sb-705498 Rectal Pain Study	Fecal Urgency/Irritable Bowel Syndrome (IBS)	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00461682">http://ClinicalTrials.gov/show/NC/T00461682</a>
Study to Assess the Effect Of Alosetron On Mucosal Blood Flow	Irritable Bowel Syndrome (IBS)	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00370032">http://ClinicalTrials.gov/show/NC/T00370032</a>
Ondansetron for the Treatment of IBS With Diarrhoea (IBS-D)	Inflammatory Bowel Disease With Diarrhoea	University of Nottingham National Institute for Health Research, United Kingdom	<a href="http://ClinicalTrials.gov/show/NC/T00745004">http://ClinicalTrials.gov/show/NC/T00745004</a>
Hypnotherapy for Prevention of Relapse in Ulcerative Colitis: a Randomised, Single-Blind, Controlled Clinical Trial	Ulcerative Colitis	Queen Mary University of London Barts & The London NHS Trust	<a href="http://ClinicalTrials.gov/show/NC/T00553163">http://ClinicalTrials.gov/show/NC/T00553163</a>

**Chronic Fatigue Syndrome- United States**

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Study of Ampligen in Chronic Fatigue Syndrome	Chronic Fatigue Syndrome	Hemispherx Biopharma	<a href="http://ClinicalTrials.gov/show/NC/T00215813">http://ClinicalTrials.gov/show/NC/T00215813</a>
Behavioral Insomnia Therapy With Chronic Fatigue Syndrome	Chronic Fatigue Syndrome Behavioral Therapy Targeted to Sleep Problems	National Institute of Nursing Research (NINR)	<a href="http://ClinicalTrials.gov/show/NC/T00540254">http://ClinicalTrials.gov/show/NC/T00540254</a>
Study To Assess The Clinical Benefit Of Droxidopa In Subjects With Chronic Fatigue Syndrome	Chronic Fatigue Syndrome Orthostatic Hypotension Neurally Mediated Hypotension Neurogenic Orthostatic Hypotension	Chelsea Therapeutics	<a href="http://ClinicalTrials.gov/show/NC/T00977171">http://ClinicalTrials.gov/show/NC/T00977171</a>
Pilot Study of Alternative Treatments of Unexplained Chronic Fatigue	Idiopathic Chronic Fatigue Chronic Fatigue Syndrome Myalgic Encephalomyelitis	University of Utah National Institutes of Health (NIH) National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NC/T00983502">http://ClinicalTrials.gov/show/NC/T00983502</a>
Proteomics of Cerebrospinal Fluid in Chronic Fatigue Syndrome	Chronic Fatigue Syndrome Fibromyalgia Gulf War Illness Multiple Chemical Sensitivity Interstitial Cystitis Irritable Bowel Syndrome	Georgetown University National Institute of Environmental Health Sciences (NIEHS)	<a href="http://ClinicalTrials.gov/show/NC/T00810329">http://ClinicalTrials.gov/show/NC/T00810329</a>

<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Autonomic Nervous System and Chronic Fatigue Syndrome	Chronic Fatigue Syndrome Orthostatic Intolerance Postural Tachycardia Syndrome	Vanderbilt University	<a href="http://ClinicalTrials.gov/show/NC/T00580619">http://ClinicalTrials.gov/show/NC/T00580619</a>
Epstein-Barr Virus as a Possible Cause for Chronic Fatigue Syndrome	Chronic Fatigue Syndrome	University of Mississippi Medical Center Ohio State University	<a href="http://ClinicalTrials.gov/show/NC/T00433355">http://ClinicalTrials.gov/show/NC/T00433355</a>
Use of Xyrem to Improve Sleep in Chronic Fatigue Syndrome	Chronic Fatigue Syndrome	University of Medicine and Dentistry New Jersey Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00498485">http://ClinicalTrials.gov/show/NC/T00498485</a>
Valganciclovir (Valcyte) for Chronic Fatigue Syndrome Patients Who Have Elevated Antibody Titers Against Human Herpes Virus 6 (HHV-6)and Epstein-Barr Virus (EBV)	Chronic Fatigue Syndrome	Stanford University	<a href="http://ClinicalTrials.gov/show/NC/T00478465">http://ClinicalTrials.gov/show/NC/T00478465</a>
Double Blind Trial of Duloxetine in Chronic Fatigue Syndrome	Fatigue Syndrome, Chronic	University of Cincinnati Eli Lilly and Company	<a href="http://ClinicalTrials.gov/show/NC/T00375973">http://ClinicalTrials.gov/show/NC/T00375973</a>
Fatigue Self-Management in Primary Care	Medically Unexplained Chronic Fatigue Chronic Fatigue Syndrome	Stony Brook University	<a href="http://ClinicalTrials.gov/show/NC/T00997451">http://ClinicalTrials.gov/show/NC/T00997451</a>
Use of Sildenafil (Viagra) to Alter Fatigue, Functional Status and Impaired Cerebral Blood Flow in Patients With CFS	Chronic Fatigue Syndrome	Charles Drew University of Medicine and Science Pfizer	<a href="http://ClinicalTrials.gov/show/NC/T00598585">http://ClinicalTrials.gov/show/NC/T00598585</a>

Title	Condition	Sponsors	URL
A Computer-Based Intervention for Medically Unexplained Physical Symptoms	Fibromyalgia Irritable Bowel Syndrome Chronic Fatigue Syndrome	University of Medicine and Dentistry New Jersey	<a href="http://ClinicalTrials.gov/show/NC/T00468013">http://ClinicalTrials.gov/show/NC/T00468013</a>
Acupuncture for the Treatment of Chronic Post-Chemotherapy Fatigue	Fatigue	Aptium Oncology Research Network	<a href="http://ClinicalTrials.gov/show/NC/T00658034">http://ClinicalTrials.gov/show/NC/T00658034</a>
Acupressure for Post-Treatment Cancer Fatigue	Fatigue	University of Michigan University of Michigan Cancer Center	<a href="http://ClinicalTrials.gov/show/NC/T00959998">http://ClinicalTrials.gov/show/NC/T00959998</a>
Sleep Disordered Breathing in Gulf War Syndrome Veterans and the Effect of Continuous Positive Airway Pressure (CPAP) Treatment	Apnea, Sleep Chronic Fatigue Syndrome	Department of Veterans Affairs	<a href="http://ClinicalTrials.gov/show/NC/T00252629">http://ClinicalTrials.gov/show/NC/T00252629</a>
Web-Based Survey of Pain, Stress and Complementary and Alternative Medicine	Gastrointestinal Diseases Chronic Pain Stress Anxiety Depression	University of California, Los Angeles National Center for Complementary and Alternative Medicine (NCCAM)	<a href="http://ClinicalTrials.gov/show/NC/T00740233">http://ClinicalTrials.gov/show/NC/T00740233</a>
Treatment of Chronic Anemia With Epoetin Alfa in Elderly	Anemia	Research and Education Foundation of Michael Reese Hospital Ortho Biotech Clinical Affairs, L.L.C. John H. Stroger Hospital Mercy Hospital and Medical center	<a href="http://ClinicalTrials.gov/show/NC/T00337441">http://ClinicalTrials.gov/show/NC/T00337441</a>

Title	Condition	Sponsors	URL
Analgesic Efficacy of Testosterone Replacement in Hypogonadal Opioid-Treated Chronic Pain Patients: A Pilot Study.	Pain Hypogonadism	James J. Peters Veterans Affairs Medical Center Solvay Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC/T00398034">http://ClinicalTrials.gov/show/NC/T00398034</a>
Investigating the Impact of Mode of Administration on Item Response	Chronic Obstructive Pulmonary Disease Depression Rheumatoid Arthritis	National Institutes of Health (NIH) QualityMetrics Stony Brook University NorthShore University HealthSystem Research Institute Stanford University	<a href="http://ClinicalTrials.gov/show/NC/T00783991">http://ClinicalTrials.gov/show/NC/T00783991</a>
Lipid Infusion in Dialysis Patients With Endotoxemia	Fatigue Hemodialysis ESRD	Sepsicure The Rogosin Institute	<a href="http://ClinicalTrials.gov/show/NC/T00506454">http://ClinicalTrials.gov/show/NC/T00506454</a>
Quality of Life in Younger Leukemia and Lymphoma Survivors	Anxiety Disorder Cancer Survivor Fatigue Leukemia Long-term Effects Secondary to Cancer Therapy in Adults  Lymphoma Lymphoproliferative Disorder Pain Psychosocial Effects of Cancer and Its Treatment Small Intestine Cancer	Case Comprehensive Cancer Center National Cancer Institute (NCI)	<a href="http://ClinicalTrials.gov/show/NC/T00956475">http://ClinicalTrials.gov/show/NC/T00956475</a>
Comprehensive Police Fatigue Management Program	Sleep Disorders Sleep Apnea, Obstructive Restless Legs Syndrome Sleep Disorders, Circadian Rhythm Sleep Initiation and Maintenance Disorders	Brigham and Women's Hospital	<a href="http://ClinicalTrials.gov/show/NC/T00246051">http://ClinicalTrials.gov/show/NC/T00246051</a>

Title	Condition	Sponsors	URL
RAISE: Randomized Placebo-Controlled Idiopathic Thrombocytopenic Purpura (ITP) Study With Eltrombopag	Idiopathic Thrombocytopenic Purpura	GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00370331">http://ClinicalTrials.gov/show/NC/T00370331</a>
Use of Focalin for Fatigue in Sarcoidosis	Sarcoidosis	University of Cincinnati	<a href="http://ClinicalTrials.gov/show/NC/T00361387">http://ClinicalTrials.gov/show/NC/T00361387</a>
A Controlled Trial of Mifepristone in Gulf War Veterans With Chronic Multisymptom Illness	Chronic Multisymptom Illness in Gulf War Veterans	Bronx Veterans Medical Research Foundation, Inc U.S. Army Medical Research and Materiel Command	<a href="http://ClinicalTrials.gov/show/NC/T00691067">http://ClinicalTrials.gov/show/NC/T00691067</a>
A Dose Range Finding Study to Evaluate the Efficacy and Safety of AZD9668 Administered Orally at Three Dose Levels to Patients With Chronic Obstructive Pulmonary Disease (COPD) on Treatment With Tiotropium	Chronic Obstructive Pulmonary Disease	AstraZeneca	<a href="http://ClinicalTrials.gov/show/NC/T00949975">http://ClinicalTrials.gov/show/NC/T00949975</a>
Cognitive-Behavior Therapy for Insomnia	Chronic Insomnia	Laval University University of California, Berkeley	<a href="http://ClinicalTrials.gov/show/NC/T00869934">http://ClinicalTrials.gov/show/NC/T00869934</a>
A Treatment Study Comparing Two Non-Drug, Self-Help Treatment of Chronic Insomnia.	Insomnia	PICS, Inc. National Heart, Lung, and Blood Institute (NHLBI)	<a href="http://ClinicalTrials.gov/show/NC/T00310284">http://ClinicalTrials.gov/show/NC/T00310284</a>

Title	Condition	Sponsors	URL
6-Month Chronic Efficacy & Safety Study of Eszopiclone in Adult Subjects With Primary Insomnia	Primary Insomnia	Sepracor, Inc.	<a href="http://ClinicalTrials.gov/show/NC/T00352144">http://ClinicalTrials.gov/show/NC/T00352144</a>
Paroxetine in the Treatment of Chronic Primary Insomnia	Primary Insomnia Depression	University of Pittsburgh GlaxoSmithKline	<a href="http://ClinicalTrials.gov/show/NC/T00178048">http://ClinicalTrials.gov/show/NC/T00178048</a>
Efficacy and Safety of SR46349B in Patients With Sleep Disorders in Fibromyalgia	Fibromyalgia Sleep Chronic Pain	Sanofi-Aventis	<a href="http://ClinicalTrials.gov/show/NC/T00313885">http://ClinicalTrials.gov/show/NC/T00313885</a>
Pulmonary Rehabilitation for Idiopathic Pulmonary Fibrosis	Idiopathic Pulmonary Fibrosis	National Jewish Health Mordecai Palliative Care Research Fund	<a href="http://ClinicalTrials.gov/show/NC/T00692796">http://ClinicalTrials.gov/show/NC/T00692796</a>
The Psychoneuroimmunology of Insomnia: Response to a Vaccine Challenge	Primary Insomnia	University of Rochester National Institutes of Health (NIH)	<a href="http://ClinicalTrials.gov/show/NC/T00680771">http://ClinicalTrials.gov/show/NC/T00680771</a>
Efficacy of Sleep Interventions for Posttraumatic Stress Disorder (PTSD)	Anxiety Disorders Mood Disorders Insomnia Nightmares	University of Pittsburgh U.S. Army Medical Research and Materiel Command	<a href="http://ClinicalTrials.gov/show/NC/T00393874">http://ClinicalTrials.gov/show/NC/T00393874</a>

<b>Chronic Fatigue Syndrome- Canada</b>			
<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
Internet-Based Treatment for Chronic Insomnia	Insomnia Insomnia Disorder	University of Manitoba	<a href="http://ClinicalTrials.gov/show/NC T00821041">http://ClinicalTrials.gov/show/NC T00821041</a>
<b>Chronic Fatigue Syndrome- UK</b>			
<b>Title</b>	<b>Condition</b>	<b>Sponsors</b>	<b>URL</b>
A Safety and Efficacy Study of Xyrem® (Sodium Oxybate) to Treat Fibromyalgia	Fibromyalgia	Jazz Pharmaceuticals	<a href="http://ClinicalTrials.gov/show/NC T00423813">http://ClinicalTrials.gov/show/NC T00423813</a>

## APPENDIX L(b): ADDITIONAL RESEARCH STUDIES FIBROMYALGIA

### Canada

***Title of Trail*** A Study of Quetiapine Fumarate Sustained Release in Major Depression With Comorbid Fibromyalgia Syndrome

Start Date: April 2007 Estimated completion September 2009

***Date***

***Primay***

***Contact***

Alexander W McIntyre, FRCPC

[Email: dramcintyre@telus.net](mailto:dramcintyre@telus.net)

*Phone:* 250 492 0053

***Purpose***

To compare the efficacy of Quetiapine SR versus placebo over 8 weeks in unipolar non-psychotic adult outpatients depression and comorbid fibromyalgia. This will be measured by the last observation carried forward (LOCF) mean change from baseline to week 8 on the Hamilton Depression Scale (HAM-D) total score. For the purposes of this study, response regarding improvement in depressive symptoms will be defined as a 50% decrease in HAM-D scores over 8 weeks. Furthermore, proportion of patients achieving remission is defined as an HAM-D total score of 7 at end of treatment. The anxiety comorbid symptoms often associated with major depression will be assessed with the HAM-A (14 items) scale. Proportion of patients responding and achieving remission of anxiety symptoms are defined respectively as a reduction of 50% in the HAM-A total score from baseline and a HAM-A total score of 7 at the end of treatment.

***Link***

<http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy219668.aspx>

## Canada

<b><i>Title of Trail</i></b>	<b>Effects of Pregabalin (Lyrica) on Sleep Maintenance in Subjects With Fibromyalgia</b>
<b><i>Date</i></b>	Start Date: June 2009 Estimated study completion Oct 2010
<b><i>Primary Contact</i></b>	Pfizer CT 1-800-718-1021
<b><i>Purpose</i></b>	The purpose of the study is to demonstrate the effect of Lyrica on Wake after sleep onset in subjects with fibromyalgia with sleep maintenance disturbance (on polysomnogram)
<b><i>Link</i></b>	<a href="http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy317807.aspx">http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy317807.aspx</a>

## Canada

***Title of Trail***

**Qigong For Treatment Of Fibromyalgia**

***Date***

Start Date: August 2009 Estimated study completion August 2010

***Primary  
Contact  
Purpose***

Pain Management Unit - CDHA Halifax, Nova Scotia, Canada

Fibromyalgia is a syndrome characterized by widespread musculoskeletal pain and hyperalgesia with a prevalence of 2-4% in the general population; it is often accompanied by fatigue, insomnia, anxiety, depression and other conditions. It is a difficult condition to treat, and only recently have drugs been approved by the FDA specifically for the treatment of this condition (Lyrica was approved in 2007, Duloxetine in 2008). There are now several clinical trials of drugs commonly used to treat neuropathic pain (amitriptyline, gabapentin, pregabalin, acetaminophen/tramadol, duloxetine, minserin) reporting some degree of efficacy in treating fibromyalgia. This efficacy makes it practical to consider fibromyalgia along with other neuropathic pain conditions. However, such drug trials report only partial efficacy in relieving pain and/or other symptoms. Current treatment recommendations indicate the need for a multimodal approach; this includes medical management using appropriate drug therapies, psychological therapies, exercise and complementary approaches. The current proposal is for a randomized controlled trial to compare qigong (a complementary modality) to a wait list control to determine if qigong is a useful complementary therapy for fibromyalgia. The investigators recently completed a pilot trial in which they examined a specific form of qigong (CFQ Qigong, available locally in Halifax), and observed beneficial effects against pain, fibromyalgia impact, and on quality of life scores; importantly, these benefits were all sustained for 6 months to the end of the trial. On the basis of these preliminary observations, the investigators now propose a controlled trial in which CFQ Qigong is compared to a wait list control group. The latter group will be offered qigong training at the end of the trial, so could really be characterized as a delayed treatment group. The study will consist of a 3-day training period, weekly review of technique sessions for 8 weeks, daily practice for 8 weeks, with assessments at baseline, at 8 weeks following the training and practice, and follow-up assessments at 4 and 6 months. Study outcomes will include: (a) pain (numeric rating scale - pain intensity), (b) impact (fibromyalgia impact questionnaire), (c) quality of life measures (SF-36), (d) patient assessments (patient global impression of change and satisfaction scales), (e) sleep measures (Pittsburgh sleep quality index, actigraphy, sleep diary). In addition to these assessments, the investigators will also conduct qualitative assessments in which participants provide a more open-ended assessment of their health status at these same intervals. The main hypothesis being examined is that CFQ Qigong will produce benefits compared to the wait list group.

***Link***

<http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy301954.aspx>

## Canada

***Title of Trail* Qigong vs. Aerobic Exercise in the Treatment of Childhood Chronic Musculoskeletal Pain**

***Date*** Start Date: August 2005

***Primay Contact*** Nicolette S Bradley, BSc

[Email: nicolette.bradley@sickkids.ca](mailto:nicolette.bradley@sickkids.ca)

*Phone:* 416-813-8925

***Purpose*** This study is comparing two different exercise programs, Qi Gong (gentle stretching, and breathing) with an aerobics program (boxing and dancing) to see if children with chronic pain or fibromyalgia are able to take part in the program. We would also like to know if it is easy to take part in an exercise program. We hypothesize that children with chronic musculoskeletal pain and FM, who engage in Qigong fitness training, will be more compliant, and have an equivalent or possibly superior improvement on measures of motor function (peak power, endurance, and metabolic efficiency) compared to children given an aerobic fitness exercise program.

***Link*** <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy140665.aspx>

***Title of Trail* Quetiapine (Seroquel XR) for the Treatment of Fibromyalgia: a Clinical and Mechanistic Pilot Study**

***Date*** Start Date: April 2008 Estimated study completion January 2010

***Primay Contact*** Veronique Dagenais, Nurse

[Email: vdagenais.chus@ssss.gouv.qc.ca](mailto:vdagenais.chus@ssss.gouv.qc.ca)

*Phone:* 819-346-1110

***Purpose*** This is a double-blind, randomized, placebo-controlled trial measuring the impact of quetiapine on clinical and experimental measures of pain in fibromyalgia and its biochemical correlates.

***Link*** <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy352464.aspx>

## Germany

***Title of Trail*** **Clinical Study on Implicit Learning, Comorbidity and Stress Vulnerability in Chronic Functional Pain**

***Date*** Start Date: September 2005 Estimated study completion November 2007

***Primay Contact*** Dieter Kleinboehl, Dr. phil.

[Email: kleinboehl@osi.uni-mannheim.de](mailto:kleinboehl@osi.uni-mannheim.de)

*Phone:* +49 621 181 2111

***Purpose*** The project investigates on the role of pain avoidance, comorbidity and stress response for the development of chronic somatic and visceral pain. We, the researchers at University Hospital Mannheim, assume that implicit operant learning of pain sensitization is a central mechanism of the process of pain becoming chronic, which is augmented by fear and by avoidance behaviour. Somatic and psychological comorbidity as well as stress factors are further promoting factors in chronic pain development.

***Link*** <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy130919.aspx>

***Title of Trail*** **Effects of Pregabalin (Lyrica) on Sleep Maintenance in Subjects With Fibromyalgia**

***Date*** Start Date: June 2009 Estimated study completion Oct 2010

***Primay Contact*** Pfizer CT

1-800-718-1021

***Purpose*** The purpose of the study is to demonstrate the effect of Lyrica on Wake after sleep onset in subjects with fibromyalgia with sleep maintenance disturbance (on polysomnogram)

***Link*** <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy364753.aspx>

## Germany

- Title of Trail*** **Supporting Effect of Dronabinol on Behavioral Therapy in Fibromyalgia and Chronic Back Pain**
- Date*** Start Date: August 2005 Estimated study completion August 2008
- Primay Contact*** Christoph Konrad, MD, PhD  
[Email: christoph.konrad@anaes.ma.uni-heidelberg.de](mailto:christoph.konrad@anaes.ma.uni-heidelberg.de)  
*Phone:* 0049 621 383 2608
- Purpose*** It is known, that a so called “pain memory” usually evolves in chronic pain syndromes which both aggravates the disorder and modifies the patients pain perception. Thus, the principal object of pain therapy is to “delete” this dysfunctional pain memory. The combination of medication, physiotherapy and psychological therapy seems to be the most effective treatment. This study investigates the effect of a concomitant Dronabinol medication (Cannabinoid) on the effectiveness of behavioral therapy. It is hypothesized that the combination of behavioral therapy and Dronabinol will be most effective in deleting the pain memory.
- Link*** <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy129030.aspx>

## France

***Title of Trail***    **Efficacy of Transcranial Magnetic Stimulation (TMS) in Chronic Idiopathic Pain Disorders**

***Date***                    Start Date: October 2006 Estimated study completion January 2010

***Primay***                    Nadine ATTAL, MD, PHD

***Contact***

[Email: nadine.attal@apr.aphp.fr](mailto:nadine.attal@apr.aphp.fr)

*Phone:* 33 1 49 09 59 31

***Purpose***                    Objectives : To investigate the analgesic effects of repeated sessions of unilateral rTMS in patients with chronic pain syndrome due to fibromyalgia, IBS or burning mouth syndrome. Primary outcome will be numerical pain scores on the patient's self diaries. Methods : The study will be randomized and performed in parallel groups and double blind versus sham stimulation, and will include 90 patients (45 patients per treatment arm). The rTMS will be performed on the right cortical area corresponding to the contralateral arm, 5 consecutive days , then once a week during 3 weeks then twice a month during 2 months, then once a month during 1 year. Clinical assessment will include an assessment of pain, quality of life, sleep, depression and anxiety, catastrophizing, and a neuropsychological evaluation. Conclusion : this study should allow to determine for the first time the long term efficacy and safety of rTMS in the treatment of dysfunctional or idiopathic chronic pain syndromes which are often refractory to conventional treatments.

***Link***                        <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy149395.aspx>

## France

***Title of Trail*** **Improving Quality of Life of Fibromyalgia Patients**

***Date*** Start Date: September 2007 Estimated study completion July 2010

***Primay Contact*** Christian GUY-COICHARD, MD

[Email: christian.guy-coichard@sat.aphp.fr](mailto:christian.guy-coichard@sat.aphp.fr)

*Phone:* 33(0)149282308

***Purpose*** Comparison of two treatments of fibromyalgia; the QOL score should improve rather and, twelve months after the end of the program, remain higher in "Plurifocal educational group" than in control group

***Link*** <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy230853.aspx>

***Title of Trail*** **Repetitive Trans-Cranial Magnetic Stimulation of the Motor Cortex in Fibromyalgia: A Study Evaluating the Clinical Efficiency and the Metabolic Correlate in 18FDG-PET**

***Date*** Start Date: October 2008 Estimated study completion October 2011

***Primay Contact*** Eric Guedj, MD

[Email: eric.guedj@ap-hm.fr](mailto:eric.guedj@ap-hm.fr)

*Phone:* 49-138-5558

***Purpose*** Fibromyalgia (FM) syndrome is a chronic pain condition.Repetitive trans-cranial magnetic stimulation (rTMS) was thus suggested in this indication.

***Link*** <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy225956.aspx>

## Japan

***Title of Trail***    **A Long-Term Study To Evaluate Safety And Efficacy Of Pregabalin In Patients With Fibromyalgia**

***Date***            Start Date: July 2009 Estimated study completion February 2011

***Primay Contact***    Pfizer CT.gov Call Center  
*Phone:* 1-800-718-1021

***Purpose***            This study will assess the safety and efficacy of the long-term use of pregabalin at doses up to 450 mg/day in patients with fibromyalgia who have completed 16 weeks of dosing in Study A0081208 (NCT00830167).

***Link***              <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy363559.aspx>

***Title of Trail***    **Randomized, Double-Blind, Placebo-Controlled Study Of Pregabalin In Patients With Fibromyalgia - NCT00830167-Aoi-ku - 0024**

***Date***            Start Date: March 2009 Estimated study completion July 2011

***Primay Contact***    Pfizer CT.gov Call Center  
*Phone:* 1-800-718-1021

***Purpose***            This study, will compare pregabalin with placebo for the duration of 15 weeks to evaluate the efficacy and safety of pregabalin in patients with fibromyalgia.

***Link***              <http://www.ClinicalConnection.com/exp/ExpandedPatientViewStudy333848.aspx>

## Sweden

***Title of Trail***    **Physical Exercise and Its Impact on Signs of Inflammation in Fibromyalgia**

***Date***                    Start Date: January 2008 Estimated study completion February 2009

***Primay***                    Kaisa E Mannerkorpi, Ass prof

***Contact***

*Phone:* 0046313424692

***Purpose***                    The study aims to compare low-intensive and high-intensive physical exercise and its impact on physical function, pain and signs of inflammation.

***Link***                        [Email: kaisa.mannerkorpi@rheuma.gu.se](mailto:kaisa.mannerkorpi@rheuma.gu.se)