

# Treatment of Chronic Pain, Fibromyalgia and Chronic Fatigue

Since the early 1990's Fibromyalgia has become an increasingly common diagnosis. It is estimated that 10%-20% of new patients in a rheumatology practice have Fibromyalgia Syndrome (FMS), and approximately 2% of the U.S. population (3-6 million people) are thought to have the condition. As most doctors do not recognize the pattern of symptoms as Fibromyalgia, it is my belief that this number is much higher. Because of the widespread musculoskeletal manifestations of this condition, patients suffering from it are very likely to seek complimentary and alternative medicine. This paper will review FMS, with emphasis on complimentary and alternative medicine.

Chronic fatigue symptoms overlap noticeably with Fibromyalgia symptoms. Both syndromes are often associated with sleep disturbances, flu-like aches, fatigue, and general malaise. However, Fibromyalgia syndrome is not typically accompanied by fever. Also, Chronic Fatigue Syndrome does not require pain to be present for its diagnosis, as does Fibromyalgia Syndrome.

## Fibromyalgia Defined

The condition we now know as Fibromyalgia appears to have been recognized for many years, but was known years ago by other names. In the mid 1800's, European literature refers to a "neurasthenia" and "spinal irritation" (exaggerated tenderness to palpation). In 1904, Sir William Gowers coined the term "fibrositis", which appeared in North America rheumatology texts in 1940. After WWII, 50%-70% of rheumatological referrals from the British armed forces were for fibrositis. In 1981, Yunas, ET. al. began using the term Fibromyalgia, since the condition was shown to not involve inflammation and in 1987, an editorial appeared in JAMA acknowledging the existence of Fibromyalgia.

## Chronic Fatigue Defined

There is no known single cause of CFS. Some authorities believe it is a condition shared by many different underlying diseases rather than an entity unto itself. Others believe it is caused by a defect of the immune system. Hormonal deficits, low blood pressure, and viral infections have been studied as possible causes or contributors. The postulated causal link with Epstein-Barr virus hypothesized in the mid-1980s has been discounted.

There has been some correlation between chronic single or multiple viral infections, but CFS has also been noted in the absence of any apparent viral infection. Food allergies are commonly associated with this disorder, as is candidiasis, intestinal parasites and toxic chemical exposure.

Toxin exposure has been suggested to play a significant role in the development and progression of both Fibromyalgia and Chronic Fatigue Syndrome, as approximately 47-67% of patients with FM and 53-67% of patients with CFS have reported at least one episode of symptom exacerbation after specific chemical exposure.

Another area of interest is the link between intestinal dysfunction and FM. Although statistics vary, research suggests that up to 70% of patients with FM complain of symptoms associated with irritable bowel syndrome (IBS). IBS is a functional disorder characterized by chronic abdominal pain with alternating diarrhea, and constipation. In comparison with healthy subjects, patients with IBS also tend to experience extra intestinal symptoms that overlap with FM

complaints, including increased nerve sensitivity, morning stiffness, headaches, sleep disturbances, and fatigue.

Improved GI health can be achieved with a nutritional regimen known as the 4R-GI Restoration Program, which addresses the four primary stages of healing: Remove, Replace, Reinoculate, and Regenerate. This is an essential part of our "detoxification" program which we will discuss later.

### **Fibromyalgia Criteria:**

The American Academy of Rheumatology has set forth the following criteria for the diagnosis of Fibromyalgia:

- 1) Subjective aching for at least 3 months.
- 2) Subjective stiffness for at least 3 months.
- 3) Widespread pain: (bilateral, above and below the waist, includes axial skeletal pain).
- 4) Tenderness to palpation (4 kg pressure) at 11 to 18 (bilateral) points as follows:

1. Upper trapezius (shoulders)
2. Supraspinatus (upper back)
3. Gluteal region (buttocks)
4. Pectoralis Major (2nd rib)
5. Inferior Sternocleidomastoid muscle ("lower cervical spine")
6. Greater Trochanter (hip joint)
7. Medial knee (inside of knee)
8. Suboccipital (base of skull)
9. Lateral Epicondyle (elbow)

In addition to the above criteria, sleep disturbance, fatigue, weakness, and irritable bowel syndrome may also be present.

### **Chronic Fatigue Criteria**

- 1) Persistent, severe fatigue brought on by less than 50% of normal exertion. This fatigue must have lasted for six months or longer, and must be unaffected by any amount of rest.
- 2) Low grade fever (around 101 degrees)
- 3) A sore throat
- 4) Lymph node tenderness
- 5) Generalized aches and pains
- 6) Sleep disorders
- 7) Psychologically related symptoms such as feelings of depression, isolation, and anxiety.

### **General Examination and Treatment Goals**

The goal in any treatment regimen must begin with a thorough evaluation of prior treatment history. This must include which provider(s) have already been consulted. Prior treatment, medications, etc., including any successes and failures.

The goal in any treatment plan must take into consideration the patient's ability to optimize sleep quality and quantity. Educating the patient with emphasis on the patient becoming the active director of their treatment.

Increase exercise and activity through guided, achievable goals. Improve aerobic capacity.

Optimize posture, ergonomics, biomechanics, and assess diet and nutritional status as well as making the patient aware of other health care resources when appropriate. FMS and CFS is typically a multi-disciplinary problem.

### **Specific Treatment Considerations**

**Diet:** When considering what determines your state of health, there are two aspects to be understood. One is your genetic heritage, which up until recently we thought was an unquestionable factor which unfortunately is beyond your control. The other is your environment, which fortunately you have considerable influence over. Of the environmental factors, second only to your thoughts and emotions is your diet and nutritional balance.

In all fairness, when looking to improve your health, perhaps nutritional factors should be considered and engaged even before your thoughts and emotions. There are several reasons for this:

1. Most find nutritional factors easier to control than their thoughts and emotions.
2. Certain nutritional factors make dramatic differences in your ability to think clearly, stabilize your moods and enhance your overall sense of well-being.
3. We can assess your nutritional needs with more accuracy than your mental-emotional needs.
4. We can effectively address your specific nutritional needs with targeted nutritional programs.

Let's now address the dietary fundamentals that will lay the foundation you will need in order to optimize the results of your targeted nutrition program. Contrary to what some might have you believe, your daily food and beverage choices do not require a degree in nutrition, just common sense and common practice. You start with the following distinctions:

1. Choose simple whole foods. Those that Mother Nature has always provided for us.
2. Eat them in their natural form, or as close to it as possible. Less processing generally means more nutritional value.
3. Eat as wide a variety of these minimally processed, whole natural foods as circumstances allow. This maximizes your exposure to various nutrients while minimizing your repeated exposure to potential contaminants (e.g. pesticides, insecticides, etc.).

4. Pay special attention to ensuring sufficient high quality, low fat proteins in your diet. Balance every 15 grams of protein with 2-3 cups of low starch vegetables as often as possible.
5. Be moderate with your starch intake. Stick to the less processed whole grains and whole vegetables.
6. Balance starch/carbohydrates with quality proteins wherever possible.
7. Be sure to get at least 3 pieces/servings (1/2 - 1 cup) of fresh fruit and 4-6 cups of fresh vegetables every day.
8. Reduce animal fats (fatty meats, dairy fats) and eliminate hydrogenated oils, trans fats and processed vegetable oils (i.e. all fried foods, margarines, commercial salad dressings, oils, sauces, confectionaries and baked goods). Instead, substitute monounsaturated oils for low heat stir-fries, light sautéing, salad dressings and baking (e.g., olive oil, canola and almond oils) and Omega3-rich, properly shielded (from air, light and heat) oils, such as flax, pumpkin and walnut for salad dressings and sauces. These nutritious oils are not to be cooked.
9. Drink at least 8 glasses of pure water daily.
10. Substitute herbal and naturally decaffeinated teas for caffeinated beverages and sodas (including chemical containing 'diet' drinks).

**Exercise:** A healthy life is an active one. Regular exercise is essential for maintaining optimal health. The long term success of any health care program will be diminished if you do not exercise at least to a moderate degree on regular basis. Exercise increases the body's metabolic rate and therefore will help you achieve your ideal weight, although that is not the main reason for doing it. Exercise increases circulation, and improves the delivery of nutrients to the cells in our body that need them.

Exercise improves the removal of metabolic waste products from the body's cells and the elimination of toxins from your body. It will improve your heart's strength and performance, as well as cause the production and release of chemicals in your brain that make you feel good, the so-called "runner's high" produced by endorphins. So exercise has multiple positive benefits, and should be included in your regular schedule and become a part of your life.

To get the most benefit from an exercise program, you must bring your heart rate up to approximately two-thirds of its maximum, and keep it there for a minimum of 15 minutes, at least 3 times a week. Exercising daily will produce results much faster than every other day and 30 minutes is better than 15! Be sure to listen to your body and do not over do it.

Remember: Inch by inch, anything is a cinch! Just about any form of activity that will meet the above criteria is fine. Walking, jogging, swimming, dancing, bicycling, etc. All can fit nicely into the category of "aerobic exercise", so you do not need to buy a color-coordinated outfit and join an aerobic dance class to get your exercise. Of course, if you want take up "aerobics", its great exercise as well. Good shoes with a strong arch support, and loose, comfortable clothes will work fine. The most important thing is to make exercise enjoyable, so that it becomes a regular part of your life, just like eating and sleeping. You must use it, or you will lose it!

**Rest and Relaxation:** Let us define what is meant by proper rest. Ideally it means: freedom from work or physical activity; freedom from disturbance of mind or spirit, peace of mind. The purpose of proper rest is to restore, to bring back to a former or original condition. There are presently many theories as to why we require rest or sleep, what happens mentally and physiologically while we sleep and even how much each individual really needs. Based on the information that we have, a rational approach serves to unravel some of the mystery surrounding sleep and the essentials of proper or adequate rest. When individuals are sleep-deprived their most common complaints are mental fatigue or confusion and musculoskeletal discomfort. These conditions are relieved by subsequent rest. We therefore may extrapolate that sleep is essential to maintain mental clarity and to neutralize structural stress. The physiology behind the restoration of mental capacity is not yet well understood, however, it would appear to be associated with renewing neurotransmitting chemicals and cell membrane potentials throughout our bodies. These processes in turn are dependent, at least in part, upon the length of rest, the quality of one's nutrition, and the state of one's mind.

Rest also provides time for your logical, analytical 'left' brain to relax its dominance and thus allow the emotional and imaginative 'right' brain valuable time for 'creative' expression. Thus, one of the keys to effective rest is learning how to turn down the volume of your 'left' brain while you tune into your 'right'! This is where regular use of an exceptional guided imagery tape can be so useful. The physiology behind the other major function of rest and sleep, structural recuperation, is more important.

There is relentless force acting upon our physical structure, day by day, week after week: The constant force of gravity. The more effectively one learns to be aware of this force and to deal with it intelligently, the less destructive its influence. Failure to pay heed and to effectively reduce the effect of this downward pull on our bodies, often results in chronic and recurrent musculoskeletal discomfort (stiff, sore shoulders, neck, and back: hip, knee and ankle distress). Degenerative disc and joint disease, myofascial problems and even headaches.

How then may we better cope with these stresses, especially with those related to the earth's gravity? While most of us are aware of the need for a good night's sleep, too few recognize the need for proper rest and relaxation. Both those who are engaged in heavy physical labor and business executives or white collar workers alike are subjected to a variety of physical stressors throughout their 'working hours'. There is mounting evidence that those who manage to obtain some rest and more resourceful postures during the day not only live more comfortably and work more effectively, they also live longer! Once convinced of the benefits, how does one go about obtaining proper rest during business hours? Proper rest refers to "those inactivity's which serve to aid restoration of optimal mental and physical function" (i.e. good health).

Our goals here include assisting the nervous system in its ability to cope with the stresses upon it, and assisting the physical body in compensating for the wear and tear of manual activities and the effects of gravity. All that is normally required is 15 to 20 minutes, twice daily, (in addition to your usual night sleep) to counteract the onslaught of stress-related fatigue and wear and tear. One of the most effective practices involves getting off your feet and laying supine on your back on a firm surface. Any carpeted floor will do nicely. The knees should be bent up toward your chest until your thighs are at right angles to your trunk, perpendicular to the floor, with your lower legs resting on a chair seat, couch, or even a box with padding on top.

**Stress:** Stress can be very damaging to your health. While it is true that without some stress we would not be able to function, excessive stress will ultimately wear you down and make you sick.

Dr. Hans Selye studied the effects of stress throughout his life, and identified "dis-stress" as being the most damaging. He stated that this harmful stress had a distinct impact on health and could eventually cause a variety of body systems to deteriorate. Drs. Holmes and Rahe, in a series of studies done on military personnel, showed that stress could also have a cumulative effect. They catalogued many different stressors, ranging from mild ones such as traffic tickets, to the profound stress associated with the loss of a loved one. They showed that people who were subjected to multiple stresses over a two year period had a much higher likelihood of becoming seriously ill than those not under such stress. This illustrates the importance of eliminating "dis-stress" whenever possible.

How can you reduce stress? Sometimes it is difficult. Perhaps the stress comes from the type of work you do, and it is not economically feasible to change. You can, however, change the way you deal with that stress. The harmful effects of stress can be minimized if we learn to deal with stressful events in a positive manner. Relaxation tapes, meditation techniques, and biofeedback can all help. Regular exercise has the additional benefit of helping you rid your body of the negative effects of stress (please refer to the section on exercise for more information). A relaxing walk in the park or along a beach can work wonders! If you would like more help in this area, just ask.

**Structural Care/Chiropractic Treatment:** The body requires two forms of energy to function: biochemical, provided by the food we eat, and electrical, provided by the brain and nervous system. One cannot function without the other. You can improve the biochemical part by being careful about what you eat, taking your supplements to fill in any "gaps" in your diet or overcome unique metabolic, environmental or genetic circumstances, and ensuring that digestion and absorption are functioning optimally.

The electrical component, however, depends on structural integrity. The brain acts as a control center, producing the energy that flows out through the spinal cord to the rest of the body via the network of nerves. Every function of the body, from the contraction of muscles allowing movement, to the digestive processes, to the production and repair of cells, to our immune function; literally everything depends on proper supply of electrical energy from the brain through the nerves. Chiropractic is the science of making sure that those nerve signals reach their destination with maximum impact and value. Your personalized, multifaceted chiropractic program will work to ensure that no structural problem impedes optimal electrical energy flow throughout the body. The nutritional program outlined in this report helps to ensure that your biochemical energy needs are also being met. The two depend on one another!

**Weight Management and Detoxification:** Your questionnaire responses and our assessment may indicate that you may benefit from a comprehensive weight management program. In our office, we utilize a program that emphasizes a proper, healthy weight loss regimen. This is an exciting program for us to recommend due to both its exceptional results and the simplicity of design. Unlike many weight management programs it involves less time spent in food preparation by providing an easy to use single-meal-replacement drink as well as a predetermined food shopping list. Included is a comprehensive patient guide, in addition to this report. We have found the results extraordinary and often include the resolution of other symptoms, such as, bloating, mood swings and fatigue spells. Our hope is you will experience a noticeable increase in your energy, endurance and overall well-being.

Toxins exist everywhere and can lead to serious health problems. They are in food and the environment, and persist because of our insufficient metabolic ability to rid the body of all that

we are exposed to on a daily basis. They can drain the body of energy and make you more susceptible to disease and infection. Toxins tend to concentrate in the liver and gastrointestinal tract, both places responsible for eliminating toxins from the body. Since everyone is exposed to toxins, everyone can use a detoxification treatment on a regular basis.

**Possible Causes of Toxicities and Risks Include:** Aging, alcohol, bacterial toxins, burns, cigarettes, constipation, drugs, food additives, food allergies, fried foods, heavy metals, intestinal infections, silicone implants, stress, toxic chemicals, metabolites, and pesticides

**Purification:** Purification (also known as detoxification or cleansing) is the process of addressing the natural toxins in the body. The liver, digestive tract, kidneys, bladder, lymphatic system, lungs and skin are the major systems/organs that are involved in the neutralization and elimination of toxins.

Because we are exposed to high levels of foreign substances and over consume chemically-treated, synthetically-produced food, extra purification is needed. The program we use at our clinic utilizes whole food supplements, pure food and water to give the body the resources it needs so it can purify and rebuild itself naturally. Our programs place emphasis on the liver and colon because these two organs play a major role in supporting the digestive system.

Many people who complete our purification program experience increased energy, better digestion, less bloating, clearer skin, shinier hair and a disappearance or lessening of past conditions such as PMS, digestive problems, Fibromyalgia and chronic fatigue to name just a few.

**Helpful Lifestyle Changes:** Breathe. Avoid stress and seek out ways to relax and resolve stressful conditions in your life. Get sufficient sunlight, exercise, and sleep. Counseling, meditation, and other therapies are proactive ways to relieve stress.

**Helpful Dietary Changes:** Drink green tea, a dietary source of catechin. Eat a well-balanced diet rich in fresh fruits and vegetables. Eat artichokes, which help detox the liver. Eat foods in the Brassica family (cabbage, cauliflower, brussel sprouts). Increase intake of berries. Keep a food diary to detect individual patterns of sensitivity to foods. Fast regularly.

**Supportive Nutritional Supplements:** As there are many nutritional supplements on the market today, and a great deal of mis-information being disseminated in magazines and infomercials, the average consumer can be "sold" on almost any concoction for almost any condition they might have, or think they may have. This is why when starting a "health regeneration program" means more than just grabbing the next vitamin bottle seen on the shelf or on television. Be an informed consumer and get tested by a reputable and knowledgeable practitioner. The following list will provide you with a sampling of vitamins and minerals that may be prescribed as part of your treatment protocol along with the physiological effects on the body:

Coenzyme Q 10 (Ubiquinone) is an antioxidant which carries oxygen to the tissues and strengthens the immune system.

Copper assists in body detoxification.

Folic Acid strengthens immunity.

Magnesium helps reduce stress and is used with Calcium metabolism.

Vitamin B Complex aids in improving general health and helps relieve stress and aids liver function.

Vitamin C antioxidant.

Vitamin E antioxidant.

Zinc is an antioxidant which strengthens immunity (should be taken with copper).

### **Supportive Herbs Properties/Function:**

Acacia catechu source of catechin, fights free radicals formation.

Dandelion provides blood and liver support and has a diuretic effect. It can help in the treatment for liver damage and is a mild laxative

Garlic is well known for its antibiotic and anti-microbial effects. It is also an antioxidant, inhibits infection, and strengthens immunity.

Gingko biloba neutralizes free radicals that are often produced during stress.

Goldenseal is a very potent detoxifier as well as strengthens immunity.

Hawthorn Berries increases circulation. A great source of Vitamin C.

Milk thistle (Silybum) is an antioxidant and blood and liver detoxifier. It also supports and neutralizes free radicals that are often produced during stress.

Turmeric aids liver function and is a tremendous anti-inflammatory agent.

Uncaria is a source of catechin, fights free radicals.

### **Pharmacological Considerations**

Pain relief, improved sleep, and improved mood are examples of goals that prescription medicines can help you reach. Generally speaking, patients with Fibromyalgia and chronic pain do not tolerate medicines well. There are often side effects such as nausea, drowsiness, or lightheadedness. One person may tolerate a particular medicine, but the next person will get sick on it. Prescribed medicines can provide great benefits to many however; they should not be used in lieu of natural forms of treatment and treating the "cause" of the problem. Categories of drugs used in the treatment of Fibromyalgia and chronic pain can include:

1) Analgesics

2) Anti-inflammatory medicines

3) Antidepressant medicines (tricyclics and selective serotonin reuptake inhibitors)

4) Muscle relaxants

5) Sleep modifiers

6) Anti-anxiety medicines

7) Other medicines used to treat chronic pain

1) Analgesics: Analgesics are pain killers and can include over-the-counter medicines such as aspirin and acetaminophen, or prescription-strength pain pills like narcotics (opiates), codeine, Vicodin, Darvocet, Oxycontin and Percocet. Ultram is a pain reliever that differs from narcotics in its action on the central nervous system. These medications do not alter Fibromyalgia, but they can help take the edge off of pain. Narcotic medications have potential for adverse side effects including drowsiness, difficulty with concentrating, and addiction, so they should be used carefully.

Many people with Fibromyalgia and chronic pain are sensitive to codeine medicines, which can cause nausea or an allergic reaction. Ultram can cause allergic reactions in people sensitive to codeine, and a small number of people taking Ultram have seizures.

2) Anti-Inflammatory Medicines: Anti-inflammatory medicines include aspirin, nonsteroidal anti-inflammatories (NSAIDs) such as ibuprofen, Naprosyn, Lodine, Daypro, and Cox-II inhibitors, and corticosteroids such as prednisone or dexamethasone. These medications are both anti-inflammatory and analgesic. Some of these medicines, such as ibuprofen, are available both over the counter and by prescription. Because Fibromyalgia is not a true inflammation, these drugs may be less effective in reducing pain. However, these drugs can be helpful in reducing pain that flares up with excessive physical activity, tendonitis, or bursitis, and should be used only as needed.

The major side effect of the anti-inflammatories is bleeding from gastrointestinal ulcers. This problem is more common the longer the medicine is taken. However, a medication class is available called Cox-II inhibitors, which include Celebrex (Searle Pharmaceuticals), Bextra and Vioxx (Merck) which are now all under scrutiny with Vioxx currently pulled off the shelf. Post market studies now confirm that Vioxx raises the risk of serious cardiovascular events including heart attack and stroke. About 2 million people worldwide were on the drug at the time of its withdrawal. As with any medication, caution should be taken when using any Cox-II inhibitor.

3) Antidepressant Medicines: The antidepressant medicines include tricyclics (for example, amitriptyline, nortriptyline, doxepin, and trazodone), and selective serotonin reuptake inhibitors (Prozac, Zoloft, Paxil, Effexor, Serzone, and Celexa). These medicines can treat pain and alter sleep and mood disturbances seen in Fibromyalgia. The tricyclic medicines are effective, but frequent side effects include dry mouth and drowsiness.

4) Muscle Relaxants: Muscle relaxants can decrease pain in people with Fibromyalgia. Medicines in this family include Flexeril, Soma, Skelaxin, and Robaxin. The most common side effect is drowsiness, although Soma and Skelaxin cause less of it..

Medicines in the antispasticity category have been used to treat muscle spasms. Two of these medicines, Zanaflex and Baclofen, have been shown to help reduce back muscle spasms and pain.

5) Sleep Modifiers: Various medicines including those already mentioned, are used to treat insomnia (analgesics, antidepressants, and muscle relaxants). True sleep modifiers include benzodiazepines like Restoril and the hypnotic non-benzodiazepines such as Ambien. The most common reported concern about using sleep modifiers, especially benzodiazepines, is the habit-forming potential. Ambien is reported to be less habit-forming but can cause rebound insomnia when it's stopped.

6) Anti-Anxiety Medicines: Anxiety is a common problem in Fibromyalgia and contributes to pain, muscle tension, and irritability. It can make depression and insomnia worse. Various medicines including antidepressants and muscle relaxants treat anxiety. Benzodiazepines such as Klonopin, Ativan, and Xanax, are commonly used medicines. These medicines also cause sedation and thus can improve sleep. Possible side effects include depression and decreased memory. Sometimes it is hard to determine whether symptoms are due to Fibromyalgia or are side effects of medication.

7) Other Medicines Used to Treat Chronic Pain: Other medicines can be used to treat pain. Some pain medicines were originally developed for a different purpose. For example, anti-seizure medicines known as neuroleptics (including Neurontin, Dilantin, Depakote, and Tegretol) were later found to be helpful in treating pain, particularly neuropathic pain. People with Fibromyalgia who have a lot of burning or electric shock feelings in their hands and feet may improve from a trial of neuroleptic medicines.

Other conditions associated with Fibromyalgia such as irritable bowel syndrome can cause severe cramping pain and may require separately prescribed medications. Medicines used to treat irritable bowel syndrome include Metamucil, Levsin, and Levbid.

Medications can play a very important part to any patient's treatment protocol who is dealing with chronic pain and fatigue issues. However, the role of medications should not be used as a substitute to correct the cause of the problem if at all possible.

## **Referral and Co-Treatment**

Fibromyalgia, chronic fatigue and chronic pain patients often have complex presentations, and may require management by more than one practitioner. The proper combination of therapeutic approaches may have a synergistic effect. The doctor of Chiropractor may be in a unique position to facilitate or coordinate the referral and co-treatment process.

Following is a list of resources to consider, using clinical judgment and the patient's history:

**Chiropractic** is a branch of the healing arts which is concerned with human health and disease processes. Doctors of Chiropractic are physicians who consider man as an integrated being and give special attention to the physiological and biochemical aspects including structural, spinal, musculoskeletal, neurological, vascular, nutritional, emotional and environmental relationships.

The practice and procedures which may be employed by Doctors of Chiropractic are based on the academic and clinical training received in and through accredited chiropractic colleges and include, but are not limited to, the use of current diagnostic and therapeutic procedures. Such procedures specifically include the adjustment and manipulation of the articulations and adjacent tissues of the human body, particularly of the spinal column. Included is the treatment of intersegmental aberrations for alleviation of related functional disorders.

Chiropractic is a drug-free, non-surgical science and, as such, does not include pharmaceuticals or incisive surgery. Due regard shall be given to the fact that state laws, as well as the nation's antitrust laws, may allow Doctors of Chiropractic to utilize ancillary health care procedures commonly referred to as being in the common domain.

**Medical, M.D/D.O.** A good primary care provider, one knowledgeable in complementary and alternative treatment, as well as in Functional medicine can be a tremendous support for the patient requiring regulation of their medications. Psychotherapist, counselor, or similar related professional is essential in assisting the patient with chronic pain in stress reduction utilizing biofeedback, visualization, guided imagery and meditative techniques.

**Naturopathic Medicine** is a distinctively natural approach to health and healing that recognizes the integrity of the whole person. Naturopathic Medicine is heir to the vitalistic tradition of medicine in the Western world,

emphasizing the treatment of disease through the stimulation, enhancement, and support of the inherent healing capacity of the person. Methods of treatments are chosen to work with the patient's vital force, respecting the intelligence of the natural healing process. The practice of Naturopathic Medicine emerges from six underlying principles of healing. These principles are based on the objective observation of the nature of health and disease, and are continually reexamined in light of scientific analysis.

**Acupuncturist/ Oriental Medicine** The distinct methods used by oriental medicine have long posed problems of understanding and accreditation for Western practitioners seeking to verify the efficacy of acupuncture. Western allopathic medicine treats diagnoses, and diagnoses are often established by fairly objective impersonal standards. The conventional Western medical model, by treating specific and "objective" diagnoses, can design studies which permit statistical inferences about the benefits of a treatment.

This approach is in contrast to traditional acupuncture models where an individual, not a diagnosis, is treated. Treatment is based not only on diagnostic evaluations derived from subjective signs and symptoms but on an accurate assessment of a patient's nature/constitution. In a medical model such as traditional oriental medicine, where optimal treatment requires individualization, Western statistical analyses and study design must challenge a sole reliance on "standard" approaches to be meaningful.

Therein lies the problem. It is human nature to want the best medical care according to established standards, which in this country are based on the traditional scientific model. Average Westerners, having been exposed to a fairly homogeneous group of medical practitioners, tend to assume that there is an optimal treatment regimen for any given condition. Since most medical doctors will ask similar questions, do similar exams, order similar

tests and recommend similar therapies for a given problem their approach being based on similar research, teaching and experience people assume that a physician who deviates from the norm is either ignorant or incompetent. (The exception would be physicians exploring new treatment regimes in research settings.)

There have been attempts to "standardize" acupuncture approaches. The Chinese government under communist rule has created a model of acupuncture called Traditional Chinese Medicine. This is the model taught in most acupuncture schools in the West. Although based on traditional models of oriental medicine, particularly herbal approaches, it only partially reflects the wealth of acupuncture models used historically and today.

**Ayurveda** is one of the oldest systems of natural health care, originating in the ancient traditions of India. Now considered one of the leading forms of holistic medicine available in the West, Ayurveda addresses all factors that influence our quality of life.

The principles of Ayurveda state that nothing exists in isolation, so that everything you interact with, your diet, family, work or relationships, has an effect on your health and well being. One guiding principle of Ayurveda is that mind and body are connected and that the mind has a profound influence over our health and well-being. While conventional Western medicine is still grounded in the paradigm of mind-body separation, Ayurveda holds that health is more than the absence of disease; it is a dynamic state of balance and integration of body, mind, and spirit.

**Physical Therapy** Although the use of certain techniques of physical therapy goes back to ancient times, the modern profession of physical therapy developed in the twentieth century, in the wake of World War I. The very first modern American physical therapists were trained to work with soldiers returning from the war, and several groups of "reconstruction aides," as they were then called, actually were sent to military hospitals in France to institute early rehabilitation with wounded veterans.

Today's physical therapist is a direct descendant of these brave women (and a few men). Physical therapists now practice in a wide variety of settings, with patients from all age groups. Many people are familiar with physical therapists' work helping patients with orthopedic problems, such as low back pain or knee surgeries, to reduce pain and regain function. Others may be aware of the treatment that physical therapists provide to assist patients recovering from a stroke in learning to use their limbs and walk again. If you are old enough to remember the mid-century polio epidemics, you might be aware of the important role that physical therapists played in helping people with this disease minimize or overcome its paralyzing effects. Each of these recollections captures the essence of physical therapists. In today's health care system, physical therapists are the experts in the examination and treatment of musculoskeletal and neuromuscular problems that affect peoples' abilities to move the way they want and function as well as they want in their daily lives.

**Functional medicine** is anchored by an examination of the core clinical imbalances that underlie various disease conditions. Those imbalances arise as environmental inputs such as diet, nutrients (including air and water), exercise, and trauma are processed by one's body,

mind, and spirit through a unique set of genetic predispositions, attitudes, and beliefs. The core clinical imbalances that arise from malfunctions within this complex system include:

Hormonal and neurotransmitter imbalances

Oxidation-reduction imbalances

Detoxification imbalances

Immune imbalances

Inflammatory imbalances

Digestive, absorptive, and microbiological imbalances

Structural imbalances from cellular membrane function to the musculoskeletal system.

Imbalances such as these are the precursors to the signs and symptoms by which we detect and label (diagnose) organ system disease. Improving balance – is the precursor to restoring health which involves much more than treating the symptoms. Functional medicine is dedicated to improving the management of complex, chronic disease by intervening at multiple levels to address these core clinical imbalances and to restore each patient's functionality and health.

Functional medicine is not a unique and separate body of knowledge. It is grounded in scientific principles and information widely available in medicine today, combining research from various disciplines into highly detailed yet clinically relevant models of disease pathogenesis and effective clinical management.

Functional medicine is a science-based field of health care that is grounded in the following principles:

Biochemical individuality describes the individual variations in function that comes from genetic and environmental differences among individuals.

Patient-centered medicine emphasizes "patient care" rather than "disease care."

Dynamic balance of internal and external factors.

Web-like interconnections of physiological factors –the human body functions as an orchestrated network of interconnected systems, rather than individual systems functioning autonomously and without effect on each other. For example, we now know that immunological dysfunctions can promote cardiovascular disease, that dietary imbalances can cause hormonal disturbances, and that environmental exposures can precipitate neurological syndromes such as Parkinson's disease.