

FIBROMYALGIA

MAJOR SYMPTOMS

MUSCLE PAIN AND STIFFNESS

DEBILITATING FATIGUE

SLEEP DISORDER

MENTAL IMPAIRMENT

“The Invisible Disease”

FIBROMYALGIA SYMPTOMS

1. Tender Point (18 in all)
2. Debilitating fatigue
3. Headaches: tension migraines
4. Sensitivity to environment; (noise, humidity, flashing lights, odors, photophobia (bright lights), temperature (heat or cold).
5. Sore throat
6. Swollen/tender lymph nodes
7. Muscles aches/spasms
8. Joint pain & stiffness
9. Sleep disorders
10. Weight gain/loss
11. Night sweats
12. Chills
13. Lack of endurance
14. Chest pains
15. Balance problems (vertigo/dizziness)
16. Symptoms that wax and wane
17. Irritable bowel syndrome (diarrhea/constipation or both)
18. Sensitivity to sunlight (rash)
19. Alcohol intolerance
20. Bleeding gums/mouth sores
21. Swelling of extremities, face and tongue
22. Multiple allergies
23. Prostate pain
24. Butterfly facial rash
25. Irritable bladder (frequent feeling of fullness)
26. Hung-over feeling (despite sufficient sleep)
27. Frequent infections (sinus, respiratory, urinary or yeast)
28. Myccalonus (Restless Leg Syndrome)
29. Intolerance to medications
30. Skeletal pain (anterior chest, cervical, thoracic, and low back)
31. Blurred and visual field abnormalities
32. Morning stiffness
33. Reynauds Syndrome
34. Muscle twitch/ spasm/ weakness
35. Paresthesia (numbness/tingle)
36. Fibrocystic breast disease
37. Sjogrene Syndrom
 - a. Sicca syndrome (dry mouth, skin, eyes and mucous membranes nose, throat, larynx, bronchi, vulva and vagina)
 - b. Generalized collagen-vascular disease, pericarditis, sensory neuropathy, joint inflammation

- 38. Carpel Tunnel Syndrome
- 39. Shortness of breath

A NATURAL FIBROMYALGIA SYNDROME TREATMENT PROTOCOL

Between three and six million Americans(8) accounting for more than 5% of a primary care practice suffer from the Fibromyalgia Syndrome (FMS), best defined as a chronic debilitating state of widespread musculoskeletal pain, stiffness, and fatigue that meets at least the following criteria(1) put forward by the American College of Rheumatology (ACR) in 1990:

History of Widespread Pain

All of the following must be present: pain in the left side of the body, pain in the right side of the body, pain above the waist and pain below the waist. There should also be pain in the spine, neck, front of the chest, thoracic spine or low back.

Pain in 11 of 18 Tender Point Sites on Finger Pressure (around 4kg. of pressure maximum)

Suboccipital muscle insertions at occiput
Lower cervical paraspinals
Trapezius at midpoint of the upper border
Supraspinatus at its origin above medial scapular spine
2nd costochondral junction
2 cm distal to lateral epicondyle in forearm
upper outer quadrant of buttock
greater trochanter
knee just proximal to the medial joint line

The two terms, fibrositis and fibromyalgia, refer to the same entity and have been used interchangeably in the literature. The term FMS, however, more accurately underlines the fact that what we are dealing with is really a syndrome, not just a musculoskeletal disorder.

FMS is not a psychosomatic or somatoform disorder, a diagnosis by exclusion or a “wastebasket” diagnosis. Most FMS patients are not hypochondriacs or whiners but suffering from demonstrable physical and mental dysfunction associated with disturbed sleep patterns and immune system abnormalities (31,32). FMS appears to be far more common among females than males, with the female prevalence ranging from 70-88%. It is predominantly characterized by a consistent pattern of non-restorative or non-refreshing sleep – an alpha wave EEG non-REM sleep abnormality.

There is a vast overlap between the signs and symptoms of FMS and those of Myalgic Encephalomyelitis/Chronic Fatigue Syndrome (ME/CFS). About 70% of patients with FMS meet the CDC criteria for ME/CFS (23) and two thirds of ME/CFS patients meet the ACR criteria for FMS(24,25). It seems more likely that these two conditions involve the same disease processes.

Commonest FMS Symptoms (2,3,4,5)

Muscular pain, aching and/or stiffness, especially in the morning (100%)
Badly disturbed sleep (nearly 100%)
Symptoms worse in cold or humid weather (nearly 100%)
A history of injury within the year before the symptoms started (nearly 100%)
Depression (70-100% depending on the study)

Irritable bowel syndrome (34-73%)
Severe migraine or non-migraine headaches (25-60%)
Raynauds phenomenon (30-50%)
Anxiety (24%)
Sicca syndrome (dry eyes and/or mouth – 18%)
Osteoarthritis (12%)
Rheumatoid arthritis (7%)
Silicone breast implants and Silicon Breast Implant Syndrome (SBIS – undetermined%)
Substance abuse (3-6%)

Other Common Conditions Associated with FMS(2,3,4,5)

Allergies
Bruxism
Chronic rhinitis
Digestive disturbances
Dizziness
Dyslexia
Easy bruising
Hair loss
Irritability
Lyme disease
Mood swings
Night cramps
Panic attacks
Phobias
Photophobia
Premenstrual syndrome
Recurrent bladder sensitivity or infections
Recurrent viral infections
Recurrent leg syndrome
Short term memory loss (3 brain fog2)
Sleep apnea

Etiology

Despite a great deal of scientific evidence to the contrary, patients who consult natural health care practitioners like this author continue to report that conventional medical doctors make statements like “It’s all in your head,” or “You have to learn to live with it!” Medical doctors, at least those in Canada, also continue to refer to FMS patients to psychiatrists regardless of the fact that FMS is not a psychiatric condition.

According to Boissevain and McCain(8) 3FMS may well represent an autoimmune dysfunction. If this were the case, the most likely mechanism of action would be that of an acute infectious febrile illness which then disturbs the physiologic sleep-regulating mechanism. 2

A great deal of evidence suggests that an aberrant immune mechanism is operating in FMS. For example, anticardiolipin antibody (ACA) has been found in FMS patients presenting with neuropathic symptoms(6) suggesting autoimmunity.

Tyler(7) reports that an influenza virus infection is a possible contributory factor. All patients in his study related a history of upper respiratory infection, along with associated neurological symptoms prior to the onset of FMS.

Abnormal immunity in FMS victims is also evidenced by studies in which biopsies of muscles found edema, elevated numbers of mast cells, and increased fluid content, suggestive of allergy. The injection of interleukin-2 into cancer patients has been found in one study to produce a distinctive set of FMS-like symptoms.

FMS is seen more often in patients suffering from immune-related disorders such as Sjogren's syndrome, rheumatoid arthritis, Raynaud's phenomenon, and autoimmune thyroiditis (hyperthyroidism). Patients with ME/CFS, where an immune dysfunction etiology is widely accepted, have an elevated number of tender points similar to patients with FMS.

Sleep deprivation can reproduce the immune system imbalances seen in FMS. FMS may be due to non-restorative deep sleep, an alpha EEG sleep anomaly in non-REM sleep, that initiates a series of immune system abnormalities (14, 15, 16). This type of abnormal sleep causes elevations in certain cytokines such as interleukin-2, found to be elevated in FMS patients (19).

Reversing Autoimmune Disease

The natural treatment of FMS requires an understanding and amelioration of the leaky gut syndrome phenomenon(9). The basic lesion in leaky gut syndrome is an intestinal lining which is more permeable than normal. In simple terms, this means that larger than optimal spaces are present between the cells of the gut wall, allowing the entrance of bacteria, fungi, parasites, toxins, undigested protein, fat and waste material into the bloodstream. These substances which are normally not absorbed in the healthy state pass through a damaged, hyperpermeable or leaky gut.

The leaky gut syndrome is basically caused by inflammation of the gut lining. Inflammation causes the spaces between the cells to enlarge, allowing the absorption of large protein molecules which are usually broken down to much smaller pieces before absorption through the normally small spaces between the gut lining cells. The immune system starts making antibodies against the larger molecules because it recognizes it as a foreign, invading substance. Antibodies are made against the proteins and the previously well tolerated foods.

These antibodies can get into various tissues and trigger an inflammatory reaction when the corresponding food is consumed. This occurs because body tissues have antigenic sites very similar to those on the foods, bacteria, parasites, candida, or fungi. Autoantibodies are thus created and inflammation can become chronic. If this inflammation occurs in a joint, autoimmune arthritis develops. If it occurs in the blood vessels, vasculitis (inflammation of the blood vessels) is the resulting autoimmune problem. If it occurs in the muscles and multiple organ systems, the result may very well be FMS or ME.CFS.

The inflammation that causes the leaky gut syndrome also damages the protective coating of antibodies of the IgA family normally present in a healthy gut. The individual becomes less resistant to viruses, bacteria, parasites, and Candida. These microbes are then able to invade the bloodstream and colonize almost any body tissue or organ. These microbes and their toxins, if present in large enough amounts, can overwhelm the liver's ability to detoxify. This results in symptoms such as confusion, memory loss, brain fog or facial swelling when the individual is exposed to a perfume or to cigarette smoke that he or she had no adverse reactions to prior to the development of the leaky gut phenomenon.

Leaky gut syndrome also creates a long list of mineral deficiencies because the various carrier proteins present in the gastrointestinal tract that are needed to transport minerals from the intestine to the blood are damaged by the inflammation process. For example, magnesium deficiency is quite a common finding in conditions like FMS despite a high magnesium intake through the diet or supplementation. If the carrier protein for magnesium is damaged, magnesium deficiency develops as a result of malabsorption. Muscle pain and spasms can occur as a result.

Similarly, zinc deficiency due to malabsorption can result in hair loss or baldness as occurs in alopecia areata, another autoimmune disease. Inflammation involves swelling (edema) and the presence of many noxious chemicals all of which can block the absorption of vitamins and essential amino acids. A leaky gut does not absorb nutrients properly. Bloating, gas, alternating diarrhea with constipation and cramps occur

leading to an irritable bowel syndrome. Eventually, systemic complaints like fatigue, headaches, memory loss, poor concentration or irritability develop.

1) Basic hypoallergenic diet plus detection and elimination of food and chemical allergies. Food and chemical allergy testing is ideally done by an elimination-provocation (exclusion) diet. Blood tests such as the ELISA/Act, IgG ELISA test or other RAST blood tests which measure antibodies in the blood directed at specific food and chemical invaders may also be acceptable in cases where testing using dietary changes are poorly tolerated. These lab tests, however, have several drawbacks (accuracy, high cost) and are often misleading if the individual is on prednisone, aspirin, antihistamines or other drugs. Usually, the person must be off prednisone for several weeks before blood tests for hidden food allergies can be determined. The elimination diet is probably the only acceptable way to go for such cases.

The majority of cases tested for food allergies have autoantibodies to gluten, gliadin and/or casein and benefit from a diet that eliminates dairy and all grains except rice, all refined carbohydrates, caffeine, red meats and processed foods. The UltraClear GI and UltraClear Plus diet plans work on the basis of this type of diet (10). The avoidance of nightshades (potatoes, tomatoes, peppers, eggplant) relieves muscle pain in an undetermined number of cases.

Most patients do better if they give up caffeine, alcohol and other stimulants or excitotoxins² like monosodium glutamate, aspartame and hydrolyzed protein entirely. Alcohol should definitely be avoided because of its tendency to suppress deep sleep. Carbonated beverages high in phosphates should also be eliminated since they can deplete calcium and magnesium from the body, two minerals which are usually deficient already in FMS victims.

2) The use of natural essential fatty acid anti-inflammatory supplements. Saturated animal fats and arachidonic acid (from red meats and dairy products) increase the inflammatory response by stimulating the production of inflammatory prostaglandins and leukotrienes.

Vegetarian diets that avoid dairy and eggs and use flax seed, evening primrose oil, borage oil and canola oil are higher in the essential fatty acids, linoleic and linolenic acids which stimulate the synthesis of anti-inflammatory effects of chemical mediators like leukotriene.

An alternative way of obtaining anti-inflammatory essential fatty acids from the diet is to consume more cold water fish such as salmon, trout, mackerel, sardines, swordfish, shark, cod, and halibut. These fish contain high concentrations of omega-3 fatty acids which have also been documented to blunt the inflammatory or allergic response. If fish is either unpalatable for the individual or not readily available in certain inland areas, supplementation on the order of 9 to 12 grams daily from fish oil capsules is an alternative.

3) Supplementation with antioxidants. Since the inflammatory response creates oxidative damage to tissues, the use of antioxidants helps prevent the damage that leads to permanent dysfunction. Antioxidant supplements include vitamins like natural carotenoids (carotenes, lycopenes, and others), vitamin A (retinal), bioflavonoids like rutin, hesperidin, quercetin, catechin and the proanthocyanidins (grape seed extract, pine bark extract or pycnogenols), vitamins C and E, sulfur containing amino acids like cysteine, N-acetyl-cysteine, methionine and glutathione.

Other important antioxidants with reported benefits in FMS are the mitochondrial health enhancers coenzyme Q10 and NADH as well as B complex vitamins, especially folic acid and vitamin and vitamin B12, selenium and zinc. So-called superfoods like spirulina, chlorella, bee pollen, royal jelly and herbs of many different kinds have also been advocated. Whole leaf aloe vera juice with high MPS (mucopolysaccharide) content also contains high levels of dozens of natural antioxidants.

Studies indicate that high doses of vitamin C and bioflavonoids are helpful in the treatment of many autoimmune conditions. Bioflavonoids such as rutin, hesperidin, catechin, quercetin, pycnogenols and bilberry in high doses help strengthen the walls of capillaries thereby preventing bruising (purpura). They

stabilize the mast cell membranes and thus block the series of reactions that are associated with almost any allergy.

4) Supplementation with hydrochloric acid, enzymes and herbs. Most autoimmune diseases are associated with a lack or insufficiency of **hydrochloric acid** production by the stomach(11). Achlorhydria (no acid) or hypochlorhydria (low acid) leads to dozens of nutrient deficiencies. This is because most high protein foods need acid for digestion. If acid is low or absent, amino acids, vitamins and minerals are poorly absorbed. The best recognized nutrient deficiency caused by low or deficient stomach acid is vitamin B12 deficiency which leads to pernicious anemia and can usually only be rectified by regular vitamin B12 injections.

Low stomach acid may be the result of heredity, extended use of drugs such as antacids, anti-ulcer medications (cimetidine, ranitidine and others), infection in the gut or food allergies (especially to milk, dairy and wheat products).

The most accurate and reliable way to diagnose hypochlorhydria is with a gastric pH test using a Heidelberg capsule. This test involves having the subject swallow a capsule which transmits pH data to a machine (radio telemetry) before and after challenges with alkaline and acid supplements. The Heidelberg test is used by few physicians due to cost and other logistic factors.

Another test is to make use of one of the components of the comprehensive stool and digestive analysis. If a subject has a lot of undigested meat, poultry or fish fibers found in the stool, this is indirect evidence of low hydrochloric acid output by the stomach. The CSDA is done by several labs in the USA (e.g. Great Smokies Diagnostic Lab, Meridian Valley Clinical Labs).

Hydrochloric acid secretion decreases with age. One study showed that by age 60 over half the population has low stomach acidity. Another test which is increasingly being utilized by natural health care practitioners that can demonstrate a problem with low stomach acidity is Livecell microscopy(46,47).

Low hydrochloric acid can be corrected by supplementing **stomach acidifiers** like glutamic acid hydrochloride, betaine and pepsin hydrochloride, apple cider vinegar, lemon juice or stomach bitters. Also helpful in this respect are pantothenic acid (vitamin B5), vitamin C, PABA and pyridoxine hydrochloride (Vitamin B6).

Pancreatin (animal based pancreatic digestive enzymes), plant enzymes and bromelain (from pineapples) not only help with protein digestion in the gastrointestinal tract but have been demonstrated to work as anti-inflammatory substances. They help reduce the number of pro-inflammatory chemical mediators like some prostaglandins and leukotrienes.

The yellow pigment of the herb tumeric is called **curcumin**. In some studies it has been reported to be equally effective as cortisone without any of the associated side effects. Curcumin is primarily effective as a natural anti-inflammatory agent but it also has important uses in cancer prevention, antioxidant support, liver disorders, heart disease and irritable bowel syndrome.

Echinacea is a very popular North American herb used to treat a variety of symptoms and diseases, including: sore mouth and gums, migraine, infection, eczema, tumors, syphilis, gangrene, typhoid, malaria, diphtheria, hemorrhoids, bee stings, snake bites, toothache and coughs, and as an anti-inflammatory and antiseptic agent. As such, it has a valid and often very effective role to play in all autoimmune diseases.

Ginger is not only a good treatment for nausea and motion sickness but has a natural anti-inflammatory effect in arthritis, bursitis, and other musculoskeletal ailments. It tones the cardiovascular system and reduces platelet aggregation similar to aspirin. One to two grams of powdered ginger a day is an average dose, but some with inflammatory conditions need higher doses taken over several months. If a burning sensation develops in the stomach, take ginger with food.

Black cohosh has traditionally been used for pain, muscular spasms, and muscular and uterine inflammatory processes. Cimicifuga is useful for arthritis, as well as FMS, traumatic injuries to the muscles and/or joints and other musculoskeletal inflammatory processes. Black cohosh roots contain the anti-inflammatory alcohol glycoside, salicin, useful for muscle and joint pain.

Herbs such as **comfrey, white willow bark, feverfew, devil's claw, yarrow, yucca** and **marshmallow** may also be helpful natural anti-inflammatory agents.

5) Trial therapies with antifungal regimes and probiotics. Autoimmune diseases often respond to antifungal treatments(12). Evidence now exists that fungi, through their production of mycotoxins, initiate many autoimmune diseases by triggering inflammation in the gastrointestinal tract leading to the development of the Leaky Gut Syndrome. The major killer diseases in North America are intimately connected to fungal mycotoxins. Diseases of unknown etiology also often have a fungal connection, with treatment of the fungal infection bringing about an improvement or elimination of that disease.

In treating any fungal infection, it is important to realize that many foods which we have always considered to be health providing have also been discovered to be heavily colonized by fungi and their mycotoxins. These include corn, peanuts, cashews and dried coconuts. To a lesser degree, fungi can also be found in breads of all kinds, barley, rye, wheat, rice, millet and practically all cereal grains. A diet high in contaminated grains and nuts increases the likelihood of fungal colonization of the gastrointestinal tract. Worse, animals fed mycotoxin contaminated grains end up with fungal overgrowth. This is evidenced by the fact that the fat and muscles of most grain fed animals in North America are loaded with mycotoxins. Animal fat has been well documented to be associated with a greater risk of both heart disease and cancer. According to some researchers, it is not the animal fat that increases the cancer and heart disease risk, but the mycotoxin load found in the fat itself.

The manufacture of bread, beer, wine, cheese, chewing tobacco, aged and cured meats and cigarettes all involves a fungal fermentation process which increases the likelihood of exposure to mycotoxins. The consumption of small amounts of these foods may be tolerated by those with healthy immune systems but deadly to those suffering from most autoimmune conditions.

Diet is very important treatment of any fungal infection. Sugar feeds fungi and must be eliminated from the diet. This includes maple syrup, honey, molasses and fruit juice. In severe infections, even whole fruits should be eliminated for several weeks. Milk, white flour products. Foods containing yeast, peanuts, mushrooms, melons and moldy foods (e.g. leftovers) all contribute to worsening any fungal infection. The ideal diet for fighting fungi as well as a long list of both natural and prescription antifungal remedies can be found in *The Complete Candida Yeast Guidebook* by Jeanne Marie Martin (co-authored by yours truly) (13). Some well documented natural antifungal remedies include probiotics like lactobacillus acidophilus and bifidus, garlic, extract of oregano oil, caprylic acid, olive leaf extract, colloidal silver and tea tree oil. Some individuals respond poorly to the natural approach and are only helped by prescription antifungal drugs (e.g. nystatin, itraconazole, fluconazole and others).

6) Other immune regulators. In low doses (under 800 I.U. per day), **vitamin E** may have little or no effect on auto-immune diseases have been reported to respond in varying degrees to **DHEA (Dehydroepiandrosterone), pregnenolone, cortisol, estrogen, progesterone, testosterone** and **thyroid hormones** (33,34).

DHEA is the most abundant androgen (male hormone) produced by the adrenal cortex of both males and females. It can be found in almost any organ including the testes, the ovaries, the lungs and the brain. Testosterone is synthesized from DHEA in both males and females. One of the theories as to why males get lupus and other autoimmune diseases eight or more times less than females is because of their relatively higher levels of DHEA and testosterone. Natural precursors to DHEA can be found in wild yam but studies do not indicate that this is equivalent to the pure hormone(34). Testosterone can be used if DHEA fails to produce positive results: 5-10 Mg. for women, 15-50 mg. for men.

7) Other immune regulators. In low doses (under 800 I.U. per day), **vitamin E** may have little or no effect on auto-immune disease. In doses well above 2000 I.U., vitamin E weakens (down regulates) autoimmune disease.

PABA (Para amino benzoic acid) 2000-3000 mgs. daily for up to 6 months may be effective in certain autoimmune diseases (thyrotoxicosis and vitiligo) to offset immune system hyperactivity.

Colostrum from bovine sources is another powerful immune system modulator – stimulating a sluggish immune system or dampening an overactive immune response as occurs with autoimmune diseases. Colostrum is a nutrient-rich milk precursor that contains immunoglobulins, growth factors, antimicrobial proteins and carbohydrates that transfer immunity from the mother cow to the calf's gastrointestinal system immediately following birth. For about 48 hours after birth, the mother produces colostrum, which is free of milk, lactose, lactalbumin and other allergy-inducing products. Studies show that colostrum supplementation is a safe, effective, natural method of diarrhea control in humans, an alternative to over-the-counter and prescription antibiotics and bismuth. It has been documented to be helpful in the treatment of ME/CFS, AIDS and autoimmune disease(45).

8) Removal of mercury amalgam in many cases of autoimmune disease is often effective at reversing symptoms. Mercury may well be behind the immune system abnormalities leading to chronic infection and subsequent fungal/candidal overgrowth(44).

9) Exercise Daily, gentle, low-impact aerobic exercise or water exercise has been validated as effective FMS therapy for a small number of cases in controlled trial(17) most likely because exercise increases the time spent in deep sleep(18). Deconditioned patients should start out with 3-5 minutes of exercise every day and increase as tolerated up to 20-30 minutes a day. Exercise works best if patient avoid exercising the most painful muscles. Patients must be careful not to overdo physical activity because this may trigger a relapse.

10) Rebalancing neurotransmitters. Some studies have shown that serum levels of serotonin and its dietary precursor tryptophan are low in FMS (20). Medications that block serotonin reuptake (e.g. amitriptyline) can increase deep sleep (21) and higher serotonin levels are important in deep sleep as well as in central and peripheral pain mechanisms (22).

Tryptophan and its breakdown product **5-htp (5-hydroxytryptophan)** are precursors to serotonin and can both be used for sleep improvement in place of the psychoactive drugs so commonly prescribed for people with FMS (39,40,41). L-tryptophan breaks down into 5-htp and kynurenin. There is some evidence to suggest that people with FMS may be deficient in serotonin because the tryptophan obtained from food metabolizes into kynurenin rather than to tryptophan and 5-htp. For this reason, 5-htp is likely to be more efficient than L-tryptophan in boosting serotonin. This serotonin precursor also controls carbohydrate cravings and helps prevent suboptimal blood glucose control.

Other amino acids which can be used in treatment of pain in FMS are **L-tyrosine, D, L-phenylalanine, GABA, GHB (gamma-hydroxybutyrate)** and the GH precursors **L-arginine and L-ornithine**. The effective use of amino acid therapies can be optimized by the use of plasma or urine amino acid analysis.

11) Referral to Sleep Disorders Clinic. It has been noted that 44% of men with FMS also have obstructive sleep apnea (OSA)(26), a potentially life-threatening disorder that requires treatment in its own right. In resistant FMS cases, a referral to a sleep disorders clinic for an evaluation may be very useful.

12) Other treatments. There is some evidence for the therapeutic use of **magnesium** and **malic acid** in FMS (35,36). Red cell magnesium levels are often low in FMS and trial therapies with magnesium sulfate or magnesium chloride injections can be very effective. A magnesium deficiency can cause many of the symptoms of FMS, including fatigue, sleep disorders, mood disorders, and muscle dysfunction (42).

Controlled studies have shown that **EMG biofeedback** (27), **regional sympathetic blockade** (28) and **cognitive behavioral therapy** (29) can be helpful. Additionally, many report that gentle **massage therapy, heat, rest, electroacupuncture and meditation** can help control symptoms.

Guaifenesin and many herbs (**St. Johns Wort, Siberian ginseng, ephedra, gotu cola, licorice root and valerian**), **olive leaf extract and homoeopathics** have also been advocated in FMS treatment as have various **parasite treatment** protocols.(44)

Conclusion

While the majority of cases are successfully treated and resume both work and their previous lifestyle, small numbers of patients continue to do poorly despite a combination of conventional and natural therapies. These individuals will most likely need a referral to a pain clinic and apply for a long term disability. While this latter exercise is often frustrating for both the patient and doctor, good guidelines are available (30).

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