

FIBROMYALGIA

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DEFINITION

Fibro = fibrous tissue myo = muscle algia = pain

Fibromyalgia is a syndrome that causes chronic widespread musculoskeletal pain and is also associated with multiple whole body symptoms, most notably fatigue, non-refreshing sleep, memory and mood issues.

Fibromyalgia subsets:

- Myofascial pain syndrome--chronic musculoskeletal pain that is localized to a specific area of the body.
- Post traumatic fibromyalgia--when the fibromyalgia begins after a specific traumatic event.

ETIOLOGY (what causes fibromyalgia)

The cause of fibromyalgia is currently unknown. The primary theory is that chronic pain syndromes including restless leg syndrome, chronic fatigue syndrome, fibromyalgia, temporomandibular joint disorder, migraine/tension headaches, irritable bowel syndrome, multiple chemical sensitivities, and anxiety/depression may be in part due to central sensitization.

Central sensitization: After experiencing pain, the nerves in the brain and spinal cord of patients with chronic pain syndromes physically change, causing them to become hypersensitive. As a result, events that would normally cause mild pain cause these people severe pain. Additionally, the hypersensitivity causes the patient with fibromyalgia to have other symptoms unrelated to pain such as exacerbation with cold weather, chemical sensitivities, headaches, tingling sensations, irritable bowel syndrome, heart palpitations, dizziness, temporomandibular joint dysfunction, anxiety, depression, stiffness, chronic fatigue, sleep disturbance, and memory problems (fibromyalgia fog)

DIAGNOSIS

Fibromyalgia is diagnosed with a thorough history and physical examination, not with laboratory or radiologic studies. In order to be diagnosed with fibromyalgia, a person must meet the following criteria:

History:

- Chronic (at least 3 months) widespread musculoskeletal pain not explained by injury or inflammation.
- Fibromyalgia patients will usually have at least 50% of these symptoms: fatigue, sleep disturbance, tendinitis, bursitis, worse with cold rainy weather, morning stiffness, anxiety, depression, tingling sensations, headaches, irritable bowel syndrome, chronic pelvic pain, chest pain, heart palpitations, dizziness, mitral valve prolapse, difficulty concentrating (fibromyalgia fog), temporomandibular joint dysfunction, and multiple drug and chemical sensitivities.

Physical examination: Fibromyalgia patients will usually have at least half of the following physical examination findings:

Female gender: 90% of people who seek treatment for fibromyalgia are women. I believe men also get fibromyalgia, but to a lesser degree, possibly because they have more muscle bulk.

Tender point examination (see figure 1 on page 8): There are 18 fibromyalgia tender points. Fibromyalgia patients will usually experience pain with moderate pressure over at least 11 of these 18 tender points.

Dermographism: The patient develops red welts on the back after the physician uses his/her finger to gently mark on the patient's back.

Jump sign: The patient jumps (from pain) when the doctor moderately squeezes their upper trapezius (shoulder) muscle.

"Ropey" muscles: Usually around the shoulder blades.

Postural problems: Forward head and rounded shoulders.

Type A personality: Most fibromyalgia patients are neat, organized and particular people. They frequently take notes and spend time researching ways to help themselves.

Anxiety and depression.

Fibromyalgia Fog: Difficulty concentrating and may experience short-term memory deficits.

Chronic fatigue syndrome: Frequently associated with poor sleep.

Decreased muscle bulk: Especially around the shoulder blades.

Scoliosis (curvature of the spine) and leg length differences may be observed in fibromyalgia patients with back pain.

Tendinitis/bursitis: Almost all fibromyalgia patients will have at least three of the following in their lifetime: Rotator cuff tendinitis/shoulder bursitis, lateral epicondylitis (tennis elbow), DeQuervain's tenosynovitis (wrist tendinitis), trochanteric bursitis (outside hip pain), patellofemoral dysfunction (front knee pain), heel spur/plantar fasciitis.

Tingling sensations: These symptoms need a thorough evaluation because they could be due to multiple medical problems including fibromyalgia, heart disease, carpal tunnel syndrome, pinched nerve, muscle spasm, etc.

Temporomandibular joint dysfunction: Will cause jaw pain and popping and clicking with opening and closing of the mouth.

Chronic pelvic pain: Frequently associated with bowel, bladder and sexual dysfunction with tender trigger points in the pelvic area.

Sacroiliac joint dysfunction and piriformis syndrome: Causes lower back and buttock pain.

Physical examination findings from other related conditions: Hypothyroidism and rheumatologic disorders (arthritis, lupus).

DEMOGRAPHICS

Fibromyalgia is present in 2-5% of the United States population.

90% of those who seek treatment are women. I believe more than 10% of fibromyalgia patients are men, but many men may have less severe symptoms (probably due to increased muscle bulk) and thus do not seek treatment.

RELATED CONDITIONS

- Chronic widespread musculoskeletal pain--present in 100% of patients with fibromyalgia.
- Chronic fatigue 80-90%.
- Non-restorative sleep 80-90%.
- Tendinitis/bursitis 80% (rotator cuff tendinitis, shoulder bursitis, tennis elbow, wrist tendinitis, hip bursitis, knee bursitis, heel spur/plantar fasciitis)
- Exacerbation with cold weather 80%.
- Morning stiffness 75%.
- Anxiety 70%.
- Depression 50%
- Paresthesias (Tingling sensations) 60%
- Chronic headaches 50%.
- Irritable bowel syndrome 50%.
- Fibromyalgia fog 50%.
- Cardiovascular symptoms (chest pain, heart palpitations, dizziness, mitral valve prolapse).
- Temporomandibular joint dysfunction (jaw pain).
- Raynaud's disease (hands turn red, white, blue with cold exposure).
- Chronic pelvic and genital pain.
- Painful periods, urinary frequency/urgency.
- Allergies and drug sensitivities.
- Hypothyroidism.
- Rheumatologic diseases (rheumatoid arthritis, lupus).

DIFFERENTIAL DIAGNOSIS

Chronic fatigue syndrome, hypothyroidism, polymyalgia rheumatica, polymyositis, rheumatoid arthritis, systemic lupus erythematosus, and multiple sclerosis may have similar symptoms to fibromyalgia.

AGE OF ONSET

Most patients develop fibromyalgia in their 20's and 30's. This is the time-frame when it is easiest to diagnose. Fibromyalgia is infrequently diagnosed in children and teenagers simply because most do not meet the diagnostic criteria of having chronic widespread musculoskeletal pain or having the many diffuse associated symptoms. Growing pains and headaches are common in children and teenagers who develop fibromyalgia as young adults. It can also be difficult to initially diagnose fibromyalgia in elderly patients because they have arthritis and other medical conditions that can also cause chronic widespread pain and diffuse symptoms.

INHERITANCE

There is a very strong genetic predisposition to developing fibromyalgia. Studies have shown that it may be an autosomal dominant disorder in some families. This means the offspring have a 50% chance of developing fibromyalgia. A large study revealed first-degree relatives of patients with fibromyalgia are 8.5 times more likely to have fibromyalgia than relatives of patients with rheumatoid arthritis.

EXACERBATING FACTORS

Physical trauma such as from motor vehicle accidents, falls, surgery, work injuries and repetitive activity can significantly make fibromyalgia symptoms worse. About 40% of fibromyalgia patients experienced their first symptoms following trauma. This is termed post-traumatic fibromyalgia. Emotional stressors such as poor relationships with family and coworkers can exacerbate fibromyalgia. Weather changes, poor sleep, cold drafts, humidity, light, noise, and odors may exacerbate fibromyalgia symptoms.

MEDICAL WORKUP

Laboratory studies: A complete blood count, kidney and liver tests, thyroid studies, vitamin D, hormone levels, and an arthritis profile are usually completed in the initial fibromyalgia work up. A new lab test to diagnose fibromyalgia may be coming soon.

Radiologic studies: X-rays, CT scans, and MRI scans may be obtained if there is suspicion for arthritis or degenerative disc disease. A DEXA bone density study is usually obtained initially at menopause or in those with high risk for developing osteoporosis.

Electrodiagnostic studies: EMG/NCS may be performed if there is a suspicion for peripheral nerve injury such as carpal tunnel syndrome, neuropathy or pinched nerves.

Sleep studies: Non-restorative sleep is a hallmark of fibromyalgia. Sleep studies may be obtained, especially if there is a suspicion for sleep apnea or restless leg syndrome.

FIRST LINE NON-DRUG TREATMENTS

Patient education

The most important treatment is educating the patient on all aspects of fibromyalgia so they can more effectively manage fibromyalgia themselves. Studies have shown that fibromyalgia patients who were properly informed of their diagnosis, prognosis and treatment options have fewer symptoms than patients who were not. The patient's spouse and close family members should also be educated. Fibromyalgia is a real illness and not imagined or "in their head". Fibromyalgia is a benign condition and will not kill them or cause severe disability. Pain does not equal injury. The patient should also be educated about other possible serious medical conditions. Just because someone has fibromyalgia does not mean that they cannot have something else such as a rheumatologic disorder, multiple sclerosis, chronic fatigue syndrome, coronary artery disease, etc. I also encourage my patients to be aware of unnecessary surgeries and expensive/high risk treatments that may make them worse.

Interdisciplinary approach

Physicians, psychologists and health care professionals from multiple specialties and backgrounds are frequently required to effectively manage symptoms of fibromyalgia. It is important to treat comorbid conditions such as arthritis, carpal tunnel syndrome, depression, hypothyroidism, etc.

Cognitive behavioral therapy

A psychologist trained in cognitive behavioral therapy can help the patient understand how their thoughts, beliefs and expectations affect their symptoms. Pain and symptoms can be relieved with “mind over matter” techniques. Cognitive behavioral therapists are also trained in nondrug treatment of chronic insomnia.

Graded exercise

A review of medical literature shows overwhelming evidence that exercise is far superior to any medication or passive modality in treating fibromyalgia. Many patients with fibromyalgia have kinesophobia (fear of movement). Normal exercise can cause some pain, but this does not equal injury. I encourage patients to “start low and go slow” with their exercise program. Specifically, they should start out by doing about half as much exercise as they believe they can do, and then slowly increase their intensity and duration by no more than 10% per week to avoid flare ups and injury. Three forms of exercise are recommended.

- **Stretching:** Stretching should be done for a few minutes every day. Daily stretching should “hurt good” when stretching but feel better afterwards.
- **Aerobic exercise:** Moderately intense aerobic exercise should be performed for 30 minutes at least three times per week. It is important to start exercising below capacity and slowly increase the frequency, duration and intensity. Too rapid progression of exercise may cause a marked exercise-induced exacerbation of pain that may lead the fibromyalgia patient to discontinue exercising altogether. Aerobic exercise has low cost, low side effects and in multiple large studies has been shown to be the best treatment at improving function and happiness in fibromyalgia patients.
- **Strengthening exercise:** Strengthening exercises with light weights, Nautilus, and Theraband should be done three times per week at a slowly progressive rate. Improved strength is shown to decrease depression and enable patients to become more functional in their activities of daily living. Strengthening the shoulder blade muscles is very important, especially in women.

Second-line non-drug treatments: These treatments have been shown to be moderately beneficial in treating fibromyalgia symptoms.

- Acupuncture
- Hydrotherapy
- Biofeedback
- Hypnotherapy
- Massage
- Massage
- Moist heat
- Sleep hygiene
- Yoga/Pilates
- Tai chi

Third-line non-drug treatments: These treatments may be beneficial in treating fibromyalgia, but have either not been studied or have failed to demonstrate significant benefit in large high-quality medical studies.

- Manipulation
- Electrostimulation
- TENS unit
- Ultrasound
- Posture/body mechanics
- Strong support system
- Craniosacral therapy
- Proper nutrition
- Limit alcohol
- Stop smoking
- Being in love
- Religion/spirituality

FIRST-LINE FIBROMYALGIA MEDICATIONS

Federal drug administration (FDA) approved fibromyalgia medications:

- **Cymbalta** (duloxetine)--FDA approved for fibromyalgia, neuropathy, depression, musculoskeletal pain. Common side effects--nausea, sexual dysfunction
- **Lyrica** (pregabalin)--FDA approved for fibromyalgia and neuropathy. Common side effects--swelling, weight gain, sedation
- **Savella** (milnacipran)--FDA approved for fibromyalgia. May also help with depression. Common side effects--nausea

First-line medications (found to be very helpful, but not FDA approved for fibromyalgia):

These are all generic and inexpensive.

- **Elavil** (amitriptyline)--taken at bedtime, helps with fibromyalgia pain, insomnia, nerve pain. Common side effects--dry mouth, drug hangover, dizziness, sedation/fatigue
- **Flexeril** (cyclobenzaprine)--taken at bedtime, helps with fibromyalgia pain, muscular spasms, insomnia. Common side effects—sedation
- Selective serotonin reuptake inhibitors (SSRI's) (Lexapro, Zoloft, Prozac, Paxil)--helps with fibromyalgia, depression, anxiety. Common side effects--nausea, weight gain, sexual dysfunction.
- **Neurontin** (gabapentin)--helps with fibromyalgia and neuropathic pain. Common side effects--weight gain, sedation, dizziness
- **Ultram** (tramadol)--primary "pain pill" for fibromyalgia, but will decrease pain just slightly. Common side effects--usually none

Second-line Fibromyalgia medications: These medicines have shown some benefit in treating the symptoms of fibromyalgia.

- **Antidepressants** (Effexor, Pamelor, Trazodone, Doxepin)--fibromyalgia, anxiety, depression, insomnia.
- **Anti-anxiety agents** (Buspar)--anxiety.
- **Nonsteroidal anti-inflammatory drugs** (Celebrex, Motrin)--arthritis, tendinitis.
- **Muscle relaxers** (Zanaflex, Baclofen)--muscle pain/spasms.
- **Sleep agents** (Ambien, Lunesta, Melatonin)--good for short term treatment of insomnia. Cognitive behavioral therapy is preferred over these drugs for long-term use.
- **Wakeful agents** (Provigil, Nuvigil)--excellent for treating chronic fatigue.
- **Compounding creams**--good for arthritis, bursitis, trigger points. Cost is decreasing. Very rare side effects.
- **Patches** (Lidoderm, Flector)--helpful for specific area of pain, expensive.
- **Tylenol**--rarely helpful for fibromyalgia pain but can help with headaches and arthritis.
- **Topamax** (an anticonvulsant)--very good for chronic headaches.
- **Steroids**--not helpful for fibromyalgia; can help comorbid conditions such as arthritis and bursitis.
- **Narcotics** (Percocet, Vicodin)--not recommended for fibromyalgia. Use these as a last resort.

HORMONE REPLACEMENT THERAPY:

Low hormone levels can exacerbate fibromyalgia. Estrogen, progesterone, testosterone, thyroid and melatonin may be very helpful in some fibromyalgia patients. If chronic fatigue is a primary component to the patient's fibromyalgia, I would recommend two medications:

1. **Provigil** 200 mg in the morning. This medication is FDA approved for treating narcolepsy, but is also excellent at treating fibromyalgia fatigue and fibromyalgia fog. It decreases fatigue and improves concentration. It has virtually no side effects and works immediately. It cost about \$20 for 30 pills through Good Rx.
2. **NP Thyroid** (contains both T4 and T3) – start at the lowest dose and slowly titrate the dose until your T3 lab value is in the high normal range (about 4 for most labs). It is safe, inexpensive and helps with fatigue, depression, achiness, cold intolerance and weight gain. Unfortunately, most physicians prescribe Synthroid which contains T4 only and is not as helpful.

INJECTIONS

Trigger points--Marcaine (numbing medication) and Sarapin (muscle relaxer) for fibromyalgia, steroids for inflammatory conditions such as arthritis and bursitis. Good short-term benefit, safe (if no steroid), inexpensive.

Facet/joint injections--good for arthritis.

Epidural steroid injections--good for herniated disc with radiculopathy (pinched nerve in neck or back).

Botox injections--good for chronic headaches, piriformis syndrome, temporomandibular joint (jaw) dysfunction, and dystonia. Can help with fibromyalgia trigger points but are very expensive and not covered by insurance for fibromyalgia.

PROGNOSIS

There is no cure for fibromyalgia but it is very treatable. Fibromyalgia is usually not progressive after its initial onset at 20 to 40 years of age. Comorbid conditions such as arthritis and degenerative disc disease will exacerbate fibromyalgia symptoms. Patients will get worse with aging (as does everyone) due to age-related medical conditions.

WORK RESTRICTIONS

Persons with fibromyalgia should use common sense when selecting an occupation. Jobs that require repetitive activity and prolonged positioning in one place can significantly worsen symptoms. Shift rotations can be especially difficult because of associated sleep disturbances. Jobs that require mental stress, especially if the fibromyalgia patient does not get along with his/her supervisor can become mentally disabling.

DISABILITY

Fibromyalgia by itself usually does not cause significant disability. However, fibromyalgia has been found to be associated with other disabling medical conditions such as chronic fatigue syndrome, arthritis, and depression that can cause disability.

SUCCESSFUL VERSUS UNSUCCESSFUL FIBROMYALGIA PATIENT

Successful fibromyalgia patients understand that fibromyalgia is a benign condition that will cause pain and uncomfortable symptoms. It can be effectively managed but not cured. A positive attitude and active self-management separates successful from unsuccessful fibromyalgia patients.

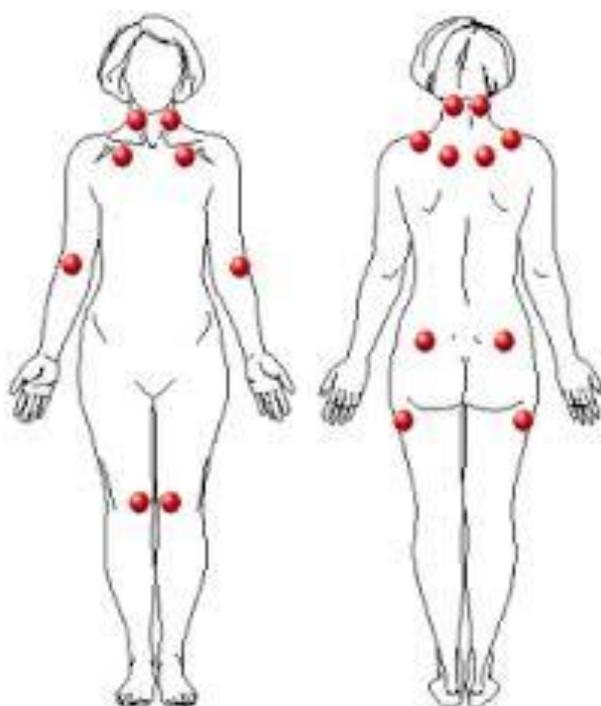


Figure 1: 18 Fibromyalgia trigger point locations