

# Osteoarthritis and Fibromyalgia



In this article, we discuss a couple of disorders that are not Repetitive Strain Injuries (RSI), but they share some common symptoms, are compounded by RSI, and may be mistaken for RSI, at least at the beginning. If you believe you are suffering from either one of these disorders, you will have no trouble finding an abundance of helpful information online or through other sources.

## **Osteoarthritis (OA)**

OA is not a repetitive strain injury, but it definitely compounds the problems of RSI and shares many of the same symptoms. OA was once considered the result of "wear and tear" to the joints, however research now shows that heredity is also a factor.<sup>1</sup> OA develops when your body progressively loses cartilage at the ends of bones in a joint or in the spine. Cartilage is spongy and filled with synovial fluid which lubricates the joints as they move. With OA, the cartilage becomes dry and starts to wear away, eventually causing bone to scrape against bone, triggering inflammation in the tissues surrounding the joints. Ligaments and tendons supporting the joints become loose and the surrounding muscles grow weak. Using the joint causes aches, pain and stiffness that wasn't there in younger days.<sup>1</sup>

Damage can begin at the age of 20 if someone participates in high impact sports like football, soccer, tennis, basketball, and high-impact aerobics. Americans are increasingly overweight, another major stress on the body, especially the knees and hips.<sup>1</sup> Every extra pound you carry can have the impact of three pounds of pressure on your knees and hips as you move.<sup>1</sup> Over 50% of all the cases of OA of the knee and 25% of the cases of OA of the hip are linked to excess weight.<sup>1</sup>

OA most often affects the hands, hips, knees, and spine.

### *Treatment*

Drugs - Acetaminophen, or Tylenol, may help relieve pain, but it does not relieve inflammation. Nonsteroidal anti-inflammatories (NSAIDs) can be effective for short-term relief of inflammation and pain, but may cause moderate to severe irritation of the stomach and intestines (GI), even ulcers and bleeding. These over-the-counter or prescription-strength drugs include ibuprofen, aspirin, and naproxen.<sup>1</sup> COX-2 inhibitors have the same effect on inflammation and pain as NSAIDs, but supposedly without the irritation to the GI lining. Studies to support this have been flawed and these medications can trigger other side effects like coughing, fever, and sore throat. They are also very expensive. COX-2 inhibitors are also found naturally in ginger and turmeric. These natural alternatives do not have the associated side effects of synthetic COX-2 inhibitors. Zyflamend, by New Chapter, is an easy way to take these herbs; they have been shown to be very effective alternatives for some people.<sup>1</sup>

Supplements - Glucosamine and chondroitin sulfates have been shown to stimulate cartilage growth. Glucosamine stimulates production and chondroitin slows cartilage removal, possibly helping prevent further joint injury.<sup>1</sup>

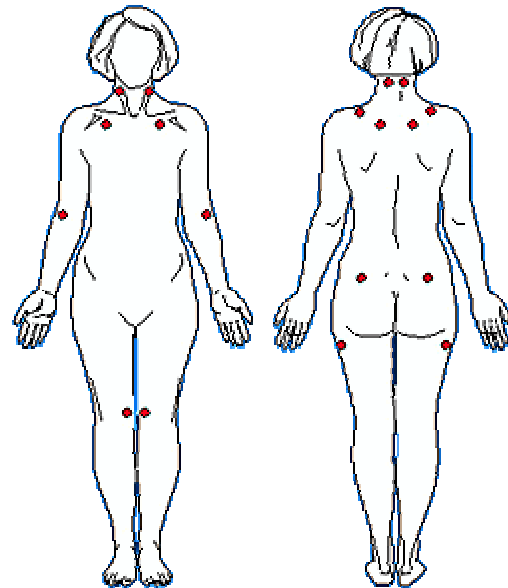
Exercise - Physical therapy, regular non-impact exercise, stretching, strength training, and movement like tai chi are all extremely important in treatment of OA. Being physically active encourages the production and flow of lubricating joint fluids, builds muscle strength, helps weight control, and eases painful joints.<sup>1</sup>

Diet - Maintaining a healthy weight is critical. Drinking 64 oz of water daily keeps the body's tissues hydrated and lubricated. Consumption of Omega-3 fish oil will, over time, reduce inflammation.<sup>1,2,3</sup> Evening primrose oil or borage oil may even be more effective in relieving joint tenderness than fish oil. Borage oil contains a higher percentage of GLA, the important ingredient. The usual dose is about 1.8 grams of GLA daily, so read the label to determine how many capsules are required to obtain this dosage.<sup>2</sup>

### **Fibromyalgia Syndrome (FMS)**

Fibromyalgia is a chronic disorder characterized by widespread pain, fatigue, anxiety, and depression.<sup>4,5,6</sup> The best description we found states that it feels somewhat like having a bad flu, where every muscle in your body hurts and you feel like all of your energy has been sucked out of you.<sup>7</sup> Between 3-6 million Americans suffer from FMS, primarily women of childbearing age, but it can occur in children, the elderly, and men.<sup>4,6,7</sup> Men tend to develop FMS in only one area, such as the shoulder, while women typically experience more widespread pain.<sup>6</sup> Experts in the field of FMS and chronic fatigue syndrome (CFS) believe that these two syndromes may be the same thing, but not enough is yet known to understand either one of these disorders.<sup>4,7</sup> In fact, 33-50% of fibromyalgia patients also suffer from multiple chemical sensitivity, so there is significant overlap with that disorder also.<sup>5,6</sup> Routine blood tests and x-rays reveal no abnormalities with either FMS or CFS. This disease was first identified in the early 1900's, but it was usually dismissed as a form of rheumatism.<sup>6</sup> Unfortunately, since symptoms are so widespread, it is common to misdiagnose FMS for other disorders.<sup>8</sup> One study found that nearly 59% of metalworkers diagnosed with repetitive strain injuries (RSI) fulfilled the test for FMS, so many of the RSI cases were more properly defined as FMS cases.<sup>9</sup>

Diagnosis of FMS involves testing of 18 specific tender points in the neck, spine, shoulders, and hips. The test for FMS was defined by the American College of Rheumatology (ACR) in 1990.<sup>4,11</sup> All of the tender points are where muscles attach to ligaments or bones and they tend to exhibit pain with just the pressure of a thumb. Pain must be in both sides of the body and pain must exist in four specific quadrants of the body, both above and below the waist. According to the ACR test, pain must exist in 11 of the 18 tender point sites, though this test was created for research purposes.<sup>6,10,11</sup> Authorities feel that many people have pain in less than the 11 required tender points, but they have widespread pain and many of the other common symptoms associated with FMS.<sup>6,7,10</sup>



1990 American College of Rheumatology criteria for Fibromyalgia:

18 tender points for testing.

*Illustration from Reference 10*

The symptoms associated with FMS may include:

- Pain - People describe the pain as deep muscular aching, throbbing, shooting and stabbing, or intense burning. Pain and stiffness are often worse in the morning *in muscle groups that are used repetitively*.
- Fatigue - The feeling of being drained of energy and unable to concentrate, varying from mild to incapacitating.
- Sleep disorder - Sleep does not feel refreshing and the person wakes up feeling exhausted.
- Chronic headaches - Headaches similar to migraines or tension headaches occur in about 50% of patients.
- Chemical sensitivities - Many patients experience sensitivities to noise, bright lights, odors, medications, and certain foods.
- Irritable bowel syndrome - 40-70% of patients experience diarrhea, constipation, and abdominal pain and gas.
- Jaw pain including temporomandibular joint dysfunction - Close to 75% of FMS patients have a varying degree of jaw discomfort, typically related to the muscles and ligaments surrounding the jaw joint rather than the joint itself.
- Other common symptoms - Premenstrual syndrome (PMS) and painful periods, chest pain, morning stiffness, cognitive or memory impairment, numbness and tingling sensations, muscle twitching, irritable bladder, skin sensitivities, dry eyes and mouth, dizziness, and impaired coordination.

### *Causes and Triggers*

It is important to separate the causes from the triggers of FMS. Recent research suggests that an imbalance of chemicals and hormones in the nervous system or brain that amplify sensation may be the cause.<sup>4,5,6</sup> The super-sensitivity to pain appears to be genetic; the disorder runs in families, and researchers have identified one gene believed to be involved in the syndrome.<sup>5</sup> People with FMS have higher than normal levels of a neuropeptide called Substance P that is involved in pain signals and subnormal levels of serotonin and norepinephrine, hormones that modulate pain and act as a messenger between nerve cells.<sup>5,7</sup> Substance P and nerve growth factor are increased threefold and fourfold, respectively, in the spinal fluid of people with FMS, though it is unknown why these elevations exist.<sup>7</sup>

Even with a genetic predisposition, however, a person must experience an event that triggers the onset of FMS.<sup>5</sup> A viral or bacterial infection, automobile accident, injury, rheumatoid arthritis, lupus, emotional stress, or even exposure to certain drugs or chemicals may trigger the disorder.<sup>4,5,7</sup> Once the disorder has been triggered, certain aggravating factors may contribute to flare-ups including changes in the weather, cold or drafty environments, hormonal fluctuations (PMS or menopause), stress, depression, anxiety, and over-exertion.<sup>7</sup> Other studies show that abnormally low levels of the hormone cortisol may be associated with FMS.<sup>4</sup> People whose bodies make inadequate amounts of cortisol experience many of the same symptoms as people with FMS. Other researchers are studying the causes of post-Lyme disease syndrome as a model for FMS, since some patients develop FMS-like conditions following Lyme disease.<sup>4</sup>

### *Treatment*

Treatment for fibromyalgia requires a comprehensive approach. Soon there may be drugs to improve treatment of FMS by reducing Substance P and increasing levels of norepinephrine and serotonin. In the meantime, there are many things that can help manage the symptoms of FMS.<sup>4,5,6,8</sup> A combination of exercise, medication, physical therapy, and relaxation works the best.<sup>4,8</sup> Learn what factors aggravate your symptoms and avoid them.<sup>7</sup>

Exercise - Regular physical activity, at least 30 minutes daily, has been found to be one of the most effective treatments. Muscle pain may increase during exercise, but the pain usually dissipates within 30 minutes and will lessen gradually after the first few weeks as you become more conditioned.<sup>6,8</sup> Low impact aerobic activity such as swimming, walking, yoga, or bicycling is excellent. High impact activities like jogging or basketball are not advisable.<sup>4,5,6,8</sup> Stretching exercises can help reduce pain and fatigue while increasing muscle strength and a sense of well-being.<sup>6</sup>

Drugs - Use of aspirin to help you begin to tolerate exercise is OK for a little while, but do not become dependent on pain killers. Ginger is a good alternative to aspirin.<sup>8</sup> Make a tea from 1 teaspoon of grated ginger steeped in boiling water for 10 minutes, or take ginger capsules.<sup>8</sup> Avoid the use of sedatives, especially the benzodiazapene class, including valium, halcion and atarax. They produce a dependency and rob you of the type of sleep most needed.<sup>8</sup> Antidepressant medications are often prescribed to elevate mood, improve quality of sleep, and relax muscles, but these lose effectiveness after a couple of years.<sup>4,8</sup> You can change your perception of pain using mind-body methods, and since stress seems to be a major factor in FMS, relaxation techniques such as meditation, progressive relaxation, and breathing exercises are critical.<sup>8</sup> Learn to reduce pain by changing the way you think about life.<sup>8</sup>

Sleep - Establish regular sleeping habits to reduce pain and improve energy and mood.<sup>6</sup>

Diet - A diet low in animal fat and high in fresh fruits, vegetables, and whole grains goes a long way to enhancing your health and sense of well-being.<sup>6,8</sup> To reduce inflammation, exclude polyunsaturated vegetable oils and sources of trans-fatty acids such as margarine and hydrogenated oils. Increase omega-3 fatty acids by eating fish (e.g., 2 to 3 servings per week of high-Omega-3 fish such as salmon), ground flax seed (2-3 tablespoons daily), or pharmaceutical-grade fish oil (2.5 grams of Omega-3 daily).<sup>3,8</sup> Boswellia and magnesium may be useful as supplements.<sup>8</sup>

Relaxation techniques - Breath work, meditation, and yoga can help you cope with stress.<sup>5</sup> Acupuncture, manipulation, and massage may help relieve symptoms.<sup>5,8</sup> Heat and massage may give short-term relief.<sup>4</sup>

Learn - There are several excellent resources for information on FMS.

- Fibromyalgia Network: Has a newsletter with information on recent research and coping strategies. (800) 853-2929, <http://www.fmnetnews.com>
- National Fibromyalgia Association: <http://www.fmaware.org>
- National Fibromyalgia Research Association: <http://www.nfra.net>
- Books listed on our Books product webpage:  
<https://insider.sri.com/services/ehs/ergo/pbooks.html>

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This article and all of our articles are intended for your information and education. We are not experts in the diagnosis and treatment of specific medical or mental problems. When dealing with a severe problem, please consult with a healthcare or mental health professional and research the alternatives available for your particular diagnosis prior to embarking on a treatment plan. You are ultimately responsible for your own health and treatment!

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