

CEC ARTICLE 1, 2009: Special Medical Conditions Part 4:
Fibromyalgia
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Fibromyalgia is the most common cause of severe generalized muscular and skeletal pain and affects 10 million people in the US 90% of which are female. It can be confused with chronic fatigue syndrome because both have:

- Musculoskeletal pain
- Chronic fatigue
- Unrefreshed sleep
- Stiffness

Fibromyalgia is considered a form of arthritis, but it does not directly affect the joints. It affects the fibrous tissue, viscera and smooth muscle tissue, connective tissue, and skeletal muscles causing widespread pain and fatigue, but not inflammation. Currently the health industry has seen the following in fibromyalgia patients:

- Lower levels of Somatomedin C
- Sleep disorders
- Serotonin metabolism disorders
- Enhanced pain perception
- 4 times the normal level of nerve growth factor

Fibromyalgia has a wide range of symptoms and severity of the disease. The pain symptoms include: widespread pain, neck pain, low back pain, 15 or more painful sites, posterior thorax pain and headaches. (This gives us 18 or more painful or tender sites). Other symptoms include fatigue, stiffness greater than 15 minutes; sleep disorders, anxiety, dry mouth, depression, irritable bowel syndrome and urinary urgency. These symptoms can be worsen with cold or humid weather, no restorative sleep, physical or mental fatigue, excessive physical activity, physical inactivity, and excessive noise or light.

Regular exercise is important for people with fibromyalgia, but requires some specific adaptations. The goals for exercise for people with fibromyalgia are to prevent deconditioning, to increase or maintain overall fitness, to minimize or eliminate the chronic pain/fatigue cycle and to increase self-esteem. The benefits of regular exercise include improved sleep patterns, overall fitness to fight fatigue, self-efficacy, pain management, stress management, posture and body mechanics, resistance to muscle micro-traumas and anti-depression effects.

People with fibromyalgia suffer from a pain/fatigue cycle that can adversely affect their physical fitness and send them into a downward spiral. The pain they feel can cause guarded movements, which result in reduced activity and eventual disuse, deconditioning and decreased function. These results in increases in fatigue, which can cause loss of self-esteem, depression, isolation/withdrawal, stress and eventually increase

muscle tension. The muscle tension leads back to more pain. Having people with fibromyalgia focus on preventing progressive deconditioning and increase fitness with the appropriate mode, intensity, duration, frequency and progression is important. A good program will include posture and body alignment, balance, body mechanics, stretching and range-of-motion as well as strength training, cardiovascular training and relaxation.

The progression for exercise should include recreational exercise, light aerobics, isotonic strength training, posture/balance and body mechanics, and active and passive range of motion and stretching.

When they are beginning exercise they can use heat prior to exercise and should have extended and slower warm-ups. They should progress gradually to more vigorous work, but high impact/high intensity exercise should be avoided. Modify the exercise when necessary, but try to exercise even if feeling fatigued or pain at a lower level rather than skipping exercise. To minimize pain and fatigue sufferers should use good posture and proper body mechanics, avoid holding a position like sitting for too long, use the 20 minute rule (change activities at least every 20 minutes) and incorporate interval training. Non-weight bearing activities and the minimization of eccentric muscle work also help minimize pain. Arm movements should be within a triangle moving away from the midline, but minimizing overhead and eccentric contractions.

Over-exercise can result in muscle micro-trauma. This results in delayed muscle soreness that can last 1-3 days and is more prolonged. People with fibromyalgia should expect initial pain and fatigue when initiating an exercise program. Muscular pain is the primary symptom and they need to recognize their pain thresholds and modify exercises based on pain tolerance. They should also expect fatigue and should be encourage to get the appropriate physical, mental and emotional rest.

For many people with fibromyalgia swimming and aquatic exercise is the choice for cardiovascular training. It provides a weight supported, gentle and soothing environment. Warm water reduces the pain and stiffness. It also promotes relaxation. The buoyancy of the water reduces the impact on the weight-bearing joints and the gravitational forces are reduces and this aids in upward movement of the limbs.

Below is a table of suggested water temperatures for different activities

Temperature Range	Activity
<80	None-risk of cooling and increasing pain
82-88	Endurance or Strength Training
92-96	Relaxation, stretching, and ROM
>90	Risk of overheating during aerobic activity

Some considerations for aquatic exercise for people with fibromyalgia include:

- Descend ladders and stairs leading with the weaker leg
- Ascend ladders and stairs leading with the stronger leg

- Minimize the overuse of hip flexors which can lead to back pain
- Slow controlled movements are preferred
- Bigger fuller range of motion movements are preferred
- Avoid tight grips on equipment, pool railings and walls
- Pain index should be used to monitor intensity.
- Beginning exercises should start with 2-3 days per week and work up to 30 minutes per day, but balance activity with rest.
- Hand weights and buoys are recommended over elastic bands
- Strength training is only done 2 times a week to allow 3 days of recovery.
- A high repetition of an exercise is not recommended. 12-15 repetitions per set is the maximum. Sets can be increased to 3 rounds if the muscles are allowed to rest and stretch between sets.
- Use movements at ½ to 1/3 land speed to keep the range of motion of the movement
- Changing directions and adding stopping and starting is a good way to increase the cardiovascular intensity.
- Drag devices like gloves, paddles and kickboards increase the resistance for strength training, but they should loosely hold the grip.
- Help overcome post-exercise symptoms with a massage, spa, hot tub, hot shower or extra rest (30-60 minutes per night).

Below are some management strategies that have been suggested for fibromyalgia sufferers. They are broken down into the main areas of concern.

Minimizing Pain

- Use the strongest and largest muscles of the lower body to lift, push, or pull
- Move the body in the most stable and functional position
- Reduce the effort required for the task and eliminate unnecessary tasks
- Avoid staying in the same position for an extended amount of time
- Avoid getting too hungry, tired, angry or lonely
- Switch shoulders when carry bags and limit weight of the bag
- Get up from desk work every 30-60 minutes and move around

Stiffness or Pain

- Take medications on schedule
- Wear stretch gloves while you sleep
- Take a warm morning bath, shower or whirlpool.
- Start the day with gentle range of motion exercises

Fatigue

- Simplify work and daily tasks and conserve energy
- Rest when needed
- Perform only light and gentle physical activity
- Take breaks between activities
- Decrease caffeine, nicotine, alcohol, tranquilizers and sleeping aids not prescribed by a doctor

- Pace the activities between heavy and light.
- Plan ahead and don't over schedule
- Prioritize activities

Depression

- Discuss feelings and medications with the doctor
- Increase social activities
- Participate in light or gentle exercise
- Know your limits

Activities of Daily Living

- Velcro closure on clothing
- Using your palm to turn a handle rather than a grip
- Push doors with forearms
- Use a backpack instead of a purse
- Use headsets for phones
- Limit repetitive activities like vacuuming to 20 min.
- Change household chores frequently
- Use rubber mats for prolonged standing
- Avoid drafts or getting chilled

Over-exercising and flare-ups of fibromyalgia symptoms may cause a re-occurrence of the pain/fatigue cycle and cause participants to stop exercising for a while. If participants have stopped exercising it may take several days or weeks for them to regain their exercise workloads. They need to start with a lesser intensity and very gradually increase the workload to avoid a rapid progression and trigger a relapse.

References

- Exercise & Fibromyalgia*, Gwen Hyatt, 1998 Desert Southwest Fitness
Your personal guide to living with fibromyalgia, Arthritis Foundation, 1997 Longstreet Press, Inc
Chronic Fatigue Syndrome 1 : Etiology and pathogenesis. Farrar, DJ, Locke, SE, Kantrowitz, FG, 1995 Behavioral Medicine, Vol 21:5-16.
Clinical features and diagnosis of fibromyalgia, Fan PT and Blanton ME, 1992, The journal of Musculoskeletal Medicine, Vol 9 - April

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1. 2 predominate systems associated with FMS are
 - a. GI distress
 - b. Chronic fatigue and muscle pain
 - c. Sleep disturbances and stiffness
 - d. Headaches and muscle pain
2. T/F FMS patients usually report problems with snoring.
3. How many tender point sites need to be identified to clinically diagnosis fibromyalgia?
4. If your client/participant complains of fatigue when he/she comes to exercise you should
 - a. Proceed with the exercise regime as planned
 - b. Tell them to return home to rest and conserve energy
 - c. Proceed with the exercise regime telling the to reduce the intensity and use an intermittent format.
 - d. Send them home to exercise when the feel up to it
5. T/F Longer and slower warm-ups reduce stiffness, prepare the body for more strenuous work and help prevent micro-trauma to the muscle.
6. What is the 20-minute rule?
7. Which type of muscle contraction increase micro-trauma to the muscle tissue?
8. Where is the pain in Fibromyalgia?
9. T/F the 20-minute rule is designed to improve aerobic training periods.
10. Which of the following does not negatively affect symptoms of FMS
 - a. cold or humid weather
 - b. excessive physical activity
 - c. non-restorative sleep
 - d. relaxation techniques

11. What water temperature range is recommended for FMS?
12. T/F Water walking or jogging should be done $\frac{1}{2}$ to $\frac{3}{4}$ speed of land exercise.
13. T/F Remaining seated for as long as possible minimizes pain.
14. You might recommend any of the following except_____ to overcome post-exercise symptoms
 - a. Continuing exercise to reduce symptoms
 - b. Getting extra rest
 - c. Relaxing in a spa
 - d. Having a massage
15. How can you modify an exercise session to reduce the potential of over-exercising
 - a. Increase eccentric muscle work
 - b. Use intermittent exercise
 - c. Use high impact/intensity training
 - d. Increase the overhead arm work
16. T/F Inflammation is usually present in FMS
17. T/F Over-exercising can worsen symptoms
18. T/F An acceptable measure of monitoring their response to exercise is the Borg scale
19. T/F FMS has a wide range or symptoms and severity of disease.
20. T/F FMS can be improved and managed with proper limit setting.
21. T/F A continuing pain/fatigue cycle can lead to physical deconditioning.