

Exercise Prescription for Fibromyalgia:

A Plan for Patients From Beginner to Advanced By Colleen Black-Brown

If we know that exercise is beneficial, then how, when and what type of exercise should you as a professional prescribe to your client whose constant companions are pain and overwhelming fatigue? The cause of FM has not been pinpointed but what has been found to be true is that the fitness or aerobic capacity of fibros is ½ to that of normal individuals. Also, strength levels are significantly less in fibros (fibromyalgia patients) compared to age and sex matched 'normal' individuals.

Mannerkorpi reported that FM patients demonstrate 30-50% reduction in aerobic capacity, reduced range of motion (ROM), and some reduction in muscle strength and endurance. Since these people in general are less fit they may not all be able to tolerate normal progressions in a one-size-fits-all exercise prescription.

Written below is a summary of my exercise prescription. My three videos on exercise prescription in cooperation with the American College of Sports Medicine contain more in-depth information. Some of this information can be found on the website www.fibrofog.com.

Because each fibro is unique and has varying degrees of pain and fatigue and what seems an unlimited number of symptoms, I have designed four different phases of FM. From this model we will be able to prescribe an exercise program more effectively on an individual basis.

The first of the four is: The Preconditioning phase (Flare-ups or chronic fatigue, and no restorative deep sleep) In this state the immune system is vulnerable and may respond to exercise as an added stressor.

Summary of the Preconditioning phase:

- Stretching, ROM, flexibility, isometrics, balance, coordination & relaxation techniques
- Hold the stretch as long as possible and build on time spent holding the stretch
- Increase both intensity and duration of activity

Make sure to begin with a warm up. A warm-up, stretching and cool down are of the utmost importance to fibros because it will help to eliminate stiffness, soreness, and injuries and promote circulation, which may be contributing factors to the symptoms of FM. A good warm up is especially important in fibros because it may increase speed and efficiency of neuromuscular messages. The Beginner's level (for a patient who experiences daytime exhaustion, an endless cycle of no restorative deep sleep, and may have tension headaches)

Summary of the Beginner level

- Weeks 1 & 2 are the preconditioning stage
- Start aerobic activity at 5 minutes & increase by no more than 2 minutes per week
- Weeks 3-6 are the initial stage of aerobic conditioning
- Week 7: initiate strength training routines using the weight of the moving limb; if tolerated well, progress to equipment
- If no additional pain and fatigue by the 8th week, use Dynabands, hydraulic machines, CAM assisted machines or light weights
- Strength training: 4-6 repetitions using 1 or 2 sets per muscle group with 2-3 minute rest intervals to allow ATP recovery. Three minute rest intervals may seem like a long time but it takes 2-3 minutes to recover 70 % of the ATP that the muscle used.

For ST and aerobics activity there is a variety of equipment like: Dynabands and Dumbbells, hydraulic

weight machines, chair exercises, and floor work, balls, bikes, & treadmills. The point at which a beginner is ready to advance to the next stage is based upon several factors.

The major goals of a Beginner program are too:

1. Not experience residual fatigue or exhaustion the following day (muscle soreness is okay).
2. Fibros should be able to comfortably accomplish the entire aerobic and ST routine along with warm-up and cool down for at least 45 minutes.
3. Although the intensity of the aerobic activity and ST will vary among individuals, in general fibros should be able to work at an intensity of 70-75% of their maximum heart rate, which is 50-55% of the max oxygen consumption or aerobic capacity and between ½ of their body weight for resistive exercise.

When fibros have achieved these goals they are now ready to progress to the moderate phase.

Exercise prescription for the Moderate group: (Pain and chronic fatigue is not constant. Experiences some restorative deep sleep, however, symptoms of FM may be present)

Summary of the Moderate level

- To qualify clients should sustain a minimum of 20-30 minutes of aerobic activity
- Warm-up and flexibility routines lasting 20 minutes or longer
- ST will last about 15-20 minutes of 2-3 sets of 6-8 repetitions per muscle group
- Cool down

Total workout time = 55 minutes to 1 hour.

The major goals of a moderate program are to:

1. Gradually increase intensity for both aerobic and ST sessions. Aerobic levels should be gradually increased to 80 % max HR or roughly 65-70% of patient's aerobic capacity.
2. Introduce variety into the patient's program. Concepts of cross training for both ST and aerobics can reduce boredom and adapt their muscles to different kinds of activities.
3. Incorporate "eccentric exercise"

You can and should begin to use eccentric exercise that your client can tolerate.

Let their fatigue and pain level the day following your client's exercise be a guide to the progression you should use. As a health professional, be wary of progressing too quickly especially in terms of increased intensity. The steps you take to increase intensity will be smaller and take a longer time to achieve. It is to be expected that this stage may last 6 months.

Don't forget to cool down to prevent muscle cramping and blood pooling. Because of postural imbalances and tight, inflexible muscles every activity session should begin and end with warm-up, flexibility and ROM activities. Progress to Advanced level when:

Your client can use body weight resistance for lower body and at least 60-70% for upper body resistive exercise and can complete 30-40 minutes of aerobic activity at 80% of max heart rate.

Initially, it will be rare if you find a fibro that meets the advanced standards without coming up through the ranks.

Exercise prescription for Advanced

(chronic fatigue has dissipated, occasional tiredness, and experiences restorative deep sleep, FM symptoms may be prevalent) You can do about anything you recommend to your 'normal' clients or recommended by the American College of Sports Medicine. Summary of Advanced level

- To qualify sustain a minimum of 30 minutes of aerobic activity
- Warm-up and flexibility routines lasting 15-20 minutes or longer
- Followed by aerobic activity of 30-40 minutes and build up to 50-60 minutes if desired
- ST 30-40 minutes of 3 sets of 8-10 repetitions per muscle group
- Cool down

Total workout time = from 1-2 hours

Goals of the Advanced stage

1. To increase volume and duration of activity
2. To develop extensive variety of different exercises and cross training into repertoire.
3. To graduate into self-sufficiency so they may continue the life-long process of fitness on their own, with only periodic re-evaluations or motivation on your part.

This stage should be reserved only for those individuals who wish to achieve a high level of fitness and have the necessary time and commitment to devote the extra effort needed. It is important that you as a health professional emphasize to your clients that most of their symptoms associated with FM may be masked only if they are willing to achieve a moderate to advanced stage of fitness.

Intensity levels need not be increased beyond 85% of max heart rate. You can combine high and low intensity to complete the time goal of each aerobic activity session. We have completed several research studies at the University of Arkansas and found that those individuals who are motivated and capable of exercising at such high volumes after proper progression may truly mask the devastating symptoms of FM.

Injury prevention

With a certain kind of patient's lack of concentration and memory loss, it is best not to have them move backwards, or with any complicated or quick moves. This is because they could get lightheaded or dizzy, lose their balance, and have coordination and cognitive problems. Also, you may have to repeat what you want them to perform several times. Fibros tend to be injury prone so any precaution ahead of time is smart.

Frequency

Now that we have talked about intensity let's focus on frequency of training. Clients should participate in an aerobic and strength-training program at least 3 days per week. Consistency is the key. Fatigued and beginner clients may benefit from (two) 10-20 minutes rather than one long session.

Also, beginners starting ST may tolerate a mini session working one body part per day rather than exercising every body part 3 times per week.

Exercise for fibros is not dependent on how we feel that day or we would never exercise. I have come to the mindset that when I wake up stiff and achy that is the time that I need to exercise, otherwise I'll be stiff and miserable all day. And why suffer all day?

Unfortunately, a person can progress or regress from phase-to-phase depending on their current pain

and fatigue and perception of life's stresses. In any stage a flare up can be triggered. If your client has a flare-up in any stage of exercise, regress to the pre-conditioning phase. However, with the proper tools fibros usually progress towards the advanced level.

Day-to-day improvement may not occur. In fact, exercise may exacerbate the pain response initially. Again you must make time your ally and continuously reinforce the notion that long term adaptations to exercise training will result in reduced pain and alleviate a lot of the symptoms of FM. Exercises not recommended

Because tender points tend to be aggravated by certain exercises we recommend that you limit the use of the following exercises. Since there is individual variability in response to various exercises some clients may be able to tolerate the exercises I caution against using. In general, however, the following are not recommended.

Exercises not recommended:

--Quads

--Knee extension - in some people causes pressure on the kneecap. (location of tender point is located above the kneecap on the medial side of the knee)

--Smith machine squats - maybe for advanced group only, because of the bar sitting on the tender points of the neck and shoulder area.

--Traps

--Upright row - puts tension on the tender point of the scapula.

--Back Chin ups

--Pull-ups (or any hanging exercises)

--Roman chair for lower back. More injuries have occurred on this machine in fitness clubs than any other piece of equipment.

--Cables - because of the eccentric contractions this is suggested for advanced groups.

--Rowers - are questionable even for advanced and since a lot of the tender points are around the neck and shoulder area the high repetitions may cause potential injury. (For advanced only)

Equipment with repetitive motion to the shoulders like rowers, skiers and ergometers should be monitored to see if it aggravates the shoulder/neck area.

The Nordic Track is okay, but be aware of hip related problems due to moderate resistance and high repetitions. Keep in mind this exercise takes a lot of coordination, which causes problems for some fibros.

Not recommended for any phase: Kickboxing or movements that jolt or have an impact to the joint or muscle should be avoided.

Summary

Be positive and encouraging to your clients. Let them see by your action and words that you enjoy being with them and that you strongly believe in the value of exercise. For fibros exercise is not an option - it's a requirement. The symptoms of FM can be devastating but with your help fibro clients can experience a better quality of life. Exercise can help mask their pain and start them on the journey towards better health and better living. Your challenge as a health and fitness professional is to give your client the gift of health.