Module II: Application

Lesson 1

Exercise and Fibromyalgia

Benefits of Exercise
Best Types of Exercise
Exercise Limitations
The Key Components of FM Exercise
FITT Principle of FM
Exercise Safety & Proper Exercise Technique
Interview
Quiz

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Benefits of Exercise for Those with FM

- Boosts Endorphins
- Boots Serotonin
- Burning calories and making weight control easier
- Giving range-of-motion to painful muscles and joints
- Improving a person's outlook on life
- Improving quality of sleep
- Improving one's sense of well-being
- Increasing aerobic capacity
- Improving cardiovascular health
- Increasing energy
- Reducing anxiety levels and depression
- Relieving stress associated with a chronic disease
- Stimulating the secretion of endorphins or "happy hormones"
- Strengthening bones
- Strengthening muscles
- Relieving pain

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Best Types of Exercise

- Exercise consistently (aim for daily) for 15 minutes.
- As little as 5 minutes a day can reduce your pain.
- Aim to feel “good tired” after a workout but better the next day.
- If exercising increases your pain, go easier and exercise for less time.
- Don’t try to ramp up in time or intensity unless you notice an increase in energy.

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Limitations

- No Specific Limitations
- Always listen to your body and only exercise when you have the energy to do so, never doing more than your body wants you to do.
- Take several breaks in-between exercises to recover. You can also split the workouts into 5- to 10-minute sections that can be done throughout the day.
- Stretch daily to help with posture and increase mobility.
- Stick with low-impact movements to prevent excess soreness.
- Avoid going into high-intensity mode while recovering.
- Keep all your movements fluid and limit the range of motion in a particular exercise whenever it causes pain.
- Keep records of how a particular exercise routine makes you feel for 2-3 days.
- One should discuss his/her plan with a doctor before getting started.

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6 Key Components

- Breathing & Lung Capacity
- Cardiorespiratory Fitness
- Muscular Strength
- Core Stability
- Posture
- Flexibility

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Key#1 Breathing and Lung Capacity

Proper Breathing Technique

Breathe slowly during exercise. Inhale through your nose with your mouth closed. The inhalation warms and filters the air. Exhale through your mouth for twice as long as your inhale. Don't pant. That keeps your lungs from getting all the air out. When exercising avoid the Valsalva Maneuver. The Valsalva maneuver is performed by imagining that the chest and stomach muscles are very tight and bearing down as though straining to initiate a bowel movement.

Diaphragm Exercises

This move strengthens a key breathing muscle, the diaphragm. Lie down with your knees bent or sit in an easy chair -- one hand on your chest, one below your rib cage. Slowly inhale through your nose so that your stomach raises one hand. Exhale with pursed lips and tighten your stomach. The hand on your chest should not move. Do this for 5 to 10 minutes, three or four times a day. Breathing this way will become easy and automatic.

Pursed Lip Breathing

This exercise reduces the number of breaths you take and keeps your airways open longer. More air is able to flow in and out of your lungs, so you can be more physically active. To practice it, simply breathe in through your nose and breathe out at least twice as long through your mouth, with pursed lips. Gently puff out the cheeks to create pressure. Creating pressure opens up the airways and it also slows down the breath.

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Key #2 Cardiorespiratory Fitness

- Cardiorespiratory exercise prescription the same as health individuals.
- Walking
- Cycling
- Water Aerobics
- Interval Training

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Key #3 Muscular Strength

- It is recommended to perform exercises that work several muscle groups at once.
- If one is going to exercise individual muscles or a small number of muscle groups, it is imperative that he/she works upper, lower, and core muscles to ensure a balanced workout optimizing function.
- Light weights and more repetitions are better than heavy weights and fewer repetitions. This type of resistance training also improves muscular endurance important for those with FM.
- One should pace him/herself and allot for several breaks when needed.

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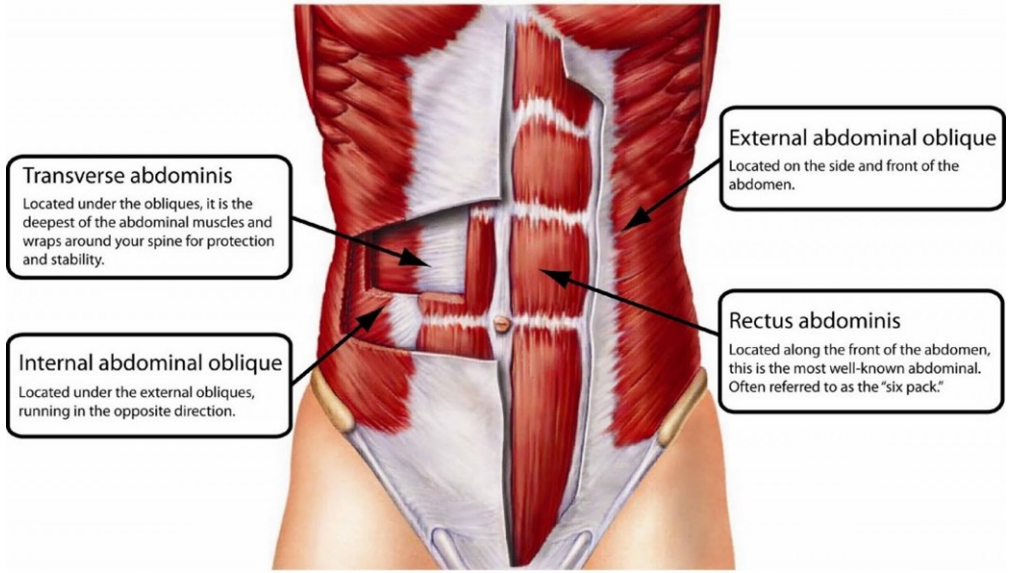
Key #4 Core Stability

- Strength and Stability- Currently, the strength that comes from the core is what is gaining the most attention. It is important, however, that equal emphasis is placed on both strength and flexibility regarding the core.
- Movement- Movement from the core is how the center of gravity is controlled.



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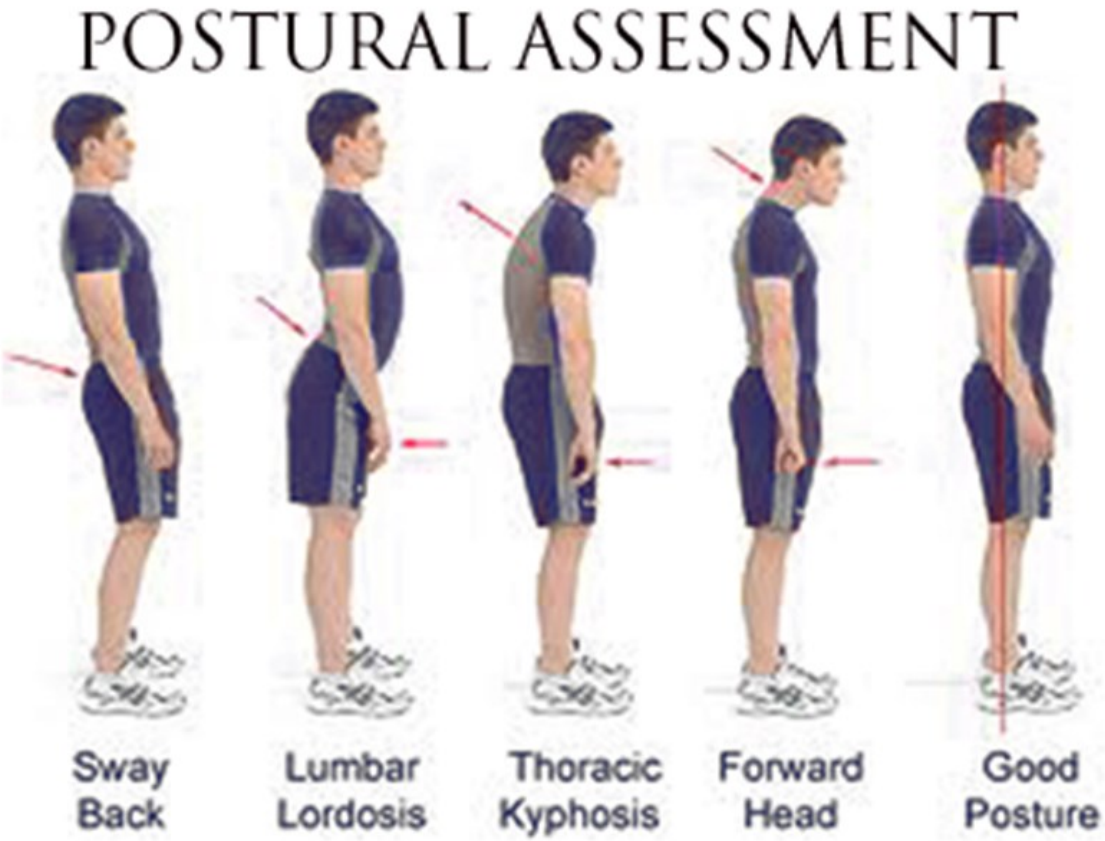
Key #5 Posture

- Kyphosis and FM
  - Increased chest anterior–posterior diameter
  - Shoulder elevation and protraction
  - Trunk flexion
- Strengthen the Upper Back
- Stretch the Chest and Anterior Deltoids



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Key #6 Flexibility

- Static Stretching is held in a challenging but comfortable position for a period of time, usually somewhere between 10 to 30 seconds.
- Dynamic Stretching is a stretch that is performed by moving through a challenging but comfortable range of motion repeatedly, usually 10 to 12 times.
- Active stretching is stretching a muscle by actively contracting the muscle in opposition to the one being stretched.
- Passive stretching is using some sort of outside assistance to help achieve a stretch.
- Proprioceptive Neuromuscular Facilitation (PNF) is a form of passive stretching. PNF stretching requires stretching a muscle and then forcefully contracting that muscle before stretching it again.
- 2-3 Days/Week or After Each Workout
- Stretch to a Mild Discomfort
- Hold for 15-30 Seconds/2-3 Sets

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FITT Principle

- Frequency
- Intensity
- Time
- Type

FITT Principle

Frequency

- Endurance/Aerobic Capacity: 3-5 Days/Week
- Interval Training: 3-5 Days/Week
- Resistance Training: 2-3 Days/Week
- Flexibility Training: 2-3 Days/Week or After Each Workout

FITT Principle

Intensity

- Endurance/Aerobic Capacity
  - >60% of MHR (Maximum Heart Rate of 220-Age)
- Borg Dyspnea or Fatigue Score of 4 to 6 (moderate to very severe)
- Rating of Perceived Exertion of 12 to 14 (somewhat hard)
- Talk Test: Should be able to say a short sentence while breathing heavy and 2-3 stops for a breath

Shortness of Breath Modified Borg Dyspnea Scale	
0	Nothing at all
0.5	Very, very slight (just noticeable)
1	Very slight
2	Slight
3	Moderate
4	Somewhat Severe
5	Severe
6	
7	Very Severe
8	
9	Very, very severe (almost maximal)
10	Maximal

Rating of Perceived Exertion Borg RPE Scale		
6		How you feel when lying in bed
7	Very, very light	or sitting in a chair relaxed.
8		Little or no effort.
9	Very light	Target area when doing
10		general physical activities
11	Fairly light	
12		Target area when doing
13	Somewhat hard	exercise
14		
15	Hard	
16		
17	Very hard	How you felt with the hardest
18		work you have ever done
19	Very, very hard	
20	Maximum exertion	Don't work this hard!

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FITT Principle

Intensity

- Interval Training: During the Work Phase <60 Seconds
  - 70-85% of MHR (Maximum Heart Rate of 220-Age)
  - Borg Dyspnea or Fatigue Score of 6-8 (very severe)
  - Rating of Perceived Exertion of 15 to 17 (hard)
  - Talk Test: Able to say one or two words

Shortness of Breath Modified Borg Dyspnea Scale	
0	Nothing at all
0.5	Very, very slight (just noticeable)
1	Very slight
2	Slight
3	Moderate
4	Somewhat Severe
5	Severe
6	
7	Very Severe
8	
9	Very, very severe (almost maximal)
10	Maximal

Rating of Perceived Exertion Borg RPE Scale		
6		How you feel when lying in bed
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15	Hard	
16		
17	Very hard	How you felt with the hardest
18		work you have ever done
19	Very, very hard	
20	Maximum exertion	Don't work this hard!

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FITT Principle

Intensity: Resistance Training

- Initial Loads: 60-70% of 1 RM
- Fatigue at 8-12 Reps
- Progressive Overload: 1-2 Reps over the desired load of 8-12 on 2 Consecutive Days
  - Increasing Resistance
  - Increasing the Number of Reps
  - Increasing the Number of Sets
  - Decreasing the Rest Between Sets

FITT Principle

Intensity: Flexibility

- Stretch a specific muscle the point of mild discomfort. No bouncing.

FITT Principle

Time

- Endurance/Aerobic Capacity: 20-60 Minutes
- Interval Training: 20-35 Minutes
- Resistance Training: 1-3 Sets
- Flexibility Training: Hold Each Stretch for 15-30 Seconds and Repeat 2-3 Times

FITT Principle

Type

- The preferred exercise to achieve the specific results for or improvements of Cardiorespiratory Fitness, Muscular Strength and Endurance, and Flexibility. Refer to the section on *Beneficial Types of Exercise*.

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Exercise Safety & Proper Technique

Pre-Exercise

Consult Physician

Health & Fitness Professional

Proper Pace

Variety of exercises to prevent tiring out one set of muscles too quickly or getting overworked.

One should work at a pace that allows one to exercise for longer.

Breathing

Inhale to prepare for movement/Exhale on the movement

Slow Deep Breaths

Talk Test

Breathing Techniques

Medication Use: Continue to take the medication based on doctor's advice.

Exercise Avoidance: One should take a day off if the FM symptoms are flaring up.

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Interview

Lana Allen

Fibromyalgia Warrior

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Quiz

1. What is the minimum that one needs to exercise to reduce pain that is associated with fibromyalgia?
2. List 5 benefits of exercise as it pertains to fibromyalgia.
3. List 3 exercise modalities that are best for those with fibromyalgia.
4. Are there any specific exercise limitations for one with fibromyalgia?
5. What is orthostatic intolerance and how can one manage it?
6. What is the proper breathing technique for one with fibromyalgia?
7. According to ACSM guidelines, how many minutes should one perform cardio exercises?
8. According to ACSM guidelines, how many repetitions should one perform when weight training for basic muscular development?
9. When one trains the core muscles, what two components are vital to a healthy core?
10. What is the main posture deviation of one with fibromyalgia?
11. List and define the 5 types of flexibility training?
12. List and define the components that make up the FITT principle.

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