Chronic Pain Assessment and Management with an Emphasis on Fibromyalgia

Mindfulness-based and Cognitive Treatment Strategies

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The International Association for the study of pain defines pain as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage.”

Pain is more than sensation. The relationship between reported pain intensity and the evoking peripheral stimulus depends on many factors, including level of arousal, anxiety, depression, attention and expectation.

FM subjects exhibited greater activity than controls over multiple brain regions in response to both nonpainful and painful stimuli.


Application of mild pressure produced subjective pain reports and cerebral responses in FM subjects that were qualitatively and quantitatively similar to the effects produced by applying at least twice the pressures in control subjects.

Pain catastrophizing is significantly associated with increased activity in brain areas related to the anticipation of pain, attention to pain, the emotional aspects of pain in subjects with FM.


In summary, people with FM appear to have maladaptive increased activity in brain areas associated with pain processing in response to nonpainful and painful peripheral stimuli.

As clinicians, our treatment choices will be enhanced by employing strategies that engage the whole process of pain perception.

Chronic pain patients were able to learn control of activity in the rostral anterior cingulate cortex, a brain region involved in pain perception and regulation.

The ability to decrease activation in the rostral anterior cingulate cortex was associated with a decrease in perceived pain intensity.

It appears that a combination of interventions, in a multimodal approach (e.g., exercises combined with education and psychologically-based interventions) is the most promising means of managing patients with fibromyalgia.


In the treatment of fibromyalgia, current evidence suggests efficacy of low dose tricyclic antidepressants, cardiovascular exercise, cognitive behavioral therapy and patient education.


Mindful Awareness

- Present moment
- Kind, compassionate, friendly
- Accepting
- Non-striving
- Curious
- Beginner’s mind
- Steady, unwavering
Mindfulness meditation is the deliberate training in mindful awareness through formal and informal practices.

**Formal**
- Sitting meditation
- Walking meditation
- Mindful body scan

**Informal**
- Integration onto activities of daily life

Applications of mindful awareness include:
- Injury prevention
- Reconditioning, exercise
- Preventing symptom exacerbation
- Undergoing medical procedures
- Quality of life
- Pain management

Pain = Sensation + Our Reaction

Physical
Cognitive
Emotional

We may have no control over the onset of an unpleasant sensation, but we do have control of our response to the sensation.
Pain = Sensation + Our Reaction
Physical
Cognitive
Emotional

The first step in a developing skillful response to pain is **awareness**.

Mindful awareness of the sensation and our reaction to that sensation is, in itself, a skillful choice.

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Mindful awareness of the breath

Diaphragmatic breathing
Breathe into your waistband

Key word or phrase

<table>
<thead>
<tr>
<th>In breath</th>
<th>Out breath</th>
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<tr>
<td>In</td>
<td>Out</td>
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<tr>
<td>Arriving</td>
<td>Home</td>
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<tr>
<td>Present moment</td>
<td>Only moment</td>
</tr>
<tr>
<td>May I</td>
<td>Be peaceful</td>
</tr>
<tr>
<td>Let go</td>
<td>Let God</td>
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<tr>
<td>In the kingdom of God</td>
<td>I dwell</td>
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Awareness of the breath assists in steadying the mind and calming the body.

The mind is like the surface of a pond. When the surface of the pond is turbulent it distorts the reflection of the surrounding terrain. When the surface is still, the surrounding terrain is seen clearly.

From this stable mind, the unpleasant sensation and the reaction to that sensation can be observed.
Pain = Sensation + Our Reaction

Physical
Cognitive
Emotional

Sensations are observed as sensations, thoughts are observed as thoughts, emotions are observed as emotions.

No deliberate effort is made to change, improve or strive toward anything.


Anyone can teach a simple 5-10 minute mindful breathing exercise and encourage the informal practice of mindfulness. I recommend any health care practitioner introduce these practices.

Teaching mindfulness meditation requires years of personal practice. As the instructor, you embody mindfulness and teach it, not as a brief exercise or technique, but as a way of life.

**Physical**

Breathe
Relax

Progressive Relaxation
Autogenic Training
Relaxation Body Scan
Guided Imagery
Cognitive

Life happens. Then we tell ourselves a story about what has happened.

The story begins to take on a life of its own. We can get so caught in the story that it becomes a lens that distorts our perception.

We begin to selectively see things that reinforce our viewpoint.

We can believe and make choices based on the story, even if it has no basis in fact.

1. You are not your pain.
   You are not your diagnosis.

   You are a whole human being, with a multitude of dimensions, and you have a medical condition, but that medical condition is not you.

   There is more right with you, functioning in a wondrous and miraculous manner, than is problematic.

2. Camera lens metaphor. Choose a wide angle lens.

   The mind is like the sky, pain is like a cloud.

   Think of someone you love dearly. Feel that energy of love in your heart. You carry a capacity for love that is boundless and immeasurable. By comparison the pain is small.
3. Label pain as sensation.

4. If your best friend were experiencing this, how would you talk with or comfort your best friend?

We often carry an inner wisdom that can help us navigate difficult situations. We sometimes more easily access it for others. We need to access this inner wisdom for ourselves.

Talk to yourself in the same manner as you would talk to your best friend.

5. Anticipation and catastrophic thinking

Anticipation, catastrophic thinking and fear are often about the future, what is going to happen next.

The truth is, no one knows what is going to happen next.

It is easy to feel overwhelmed when you add the unknowns of tomorrow on to the challenges you face today.
Plan for the future, but do not spend your life there.

The present moment is the foundation for the next moment. Today is the foundation for tomorrow.

Today is where your power resides. Taking care of yourself as best you can today is your foundation for tomorrow.

The present moment is the only moment we have for living. This is it.

6. Ask yourself:
If I keep talking to myself in this way, what kind of future is it contributing to? Is this the future I want?
Is this a story I want to give my life energy to?
What would be a healing or comforting story?

7. Water the weeds or water the flowers
If you think of life is like a big garden, we all have plants in our gardens that are not doing well.

You can spend all of your energy focusing on the plant that isn’t doing well, or you can spend sometime in other parts of your garden.

This not only gives you a more accurate experience of life, it also provides a better perspective and can help strengthen you.
Emotional Compassion

Life is a bumpy road with unexpected twists, turns and unforeseen weather conditions.

The price of being on this road is a human body that is vulnerable to sickness, aging and death.

You can travel that road with a mean and harsh critic, and truly have a miserable experience.

You can travel that same road with someone kind and compassionate, friendly and understanding, and the experience would be much more manageable.

The voice that travels this road with us is our own. The choice is always ours.

Loving kindness meditation

May I be peaceful and joyful
May I be free of distress and the causes of distress
May I care for myself with love and compassion
May I awaken to my wholeness and be free

Loving kindness is extended to oneself, a loved one, a neutral person, a difficult person and to all beings.
Exploring Pain with Cognitive Restructuring

Identify your thoughts, feelings and subsequent behaviors in response to pain.

Thoughts:

Feelings:

Behavior:

Identify automatic thoughts that are distorted, negative or exaggerated:

If you are caught in unrealistically negative or distorted thinking, identify alternative ways of thinking about your symptoms that reduce your distress:

Identify how changing your thoughts can impact your feelings and behavior:

Exploring a Difficult Situation with Mindfulness

Identify the difficult situation:

How have you reacted to this situation?

Thoughts

Emotions

Physical reaction
Observe your reaction with generous acceptance, openness, curiosity, with basic kindness and compassion and no need to criticize, judge or blame. Observe your reaction with a “beginner’s mind.” This alone is a healing practice.

Has this reaction contributed to your distress? If yes, how?

Is there a component of your reaction that you can change that would decrease your distress?

Are there unavoidable elements of this situation that are not in your power to change?

What is life teaching you? Is there something of value here?

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Case Example

Patient is a 40 year old woman, married with 2 young children
Diagnosed at age 34 with FM and Lupus
At 39 she changed MDs, and was dx'd with Undifferentiated Connective Tissue Disease
c/o chronic pain neck, shoulders, back, hips, both joint and muscular pain
Pain intensity 5 - 8/10

Office Visits

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Rheumatologist</td>
<td>1-2 x/mo</td>
<td>1 x/3 mos</td>
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<tr>
<td>Psychiatrist</td>
<td>2 x/mo</td>
<td>1 x/6-8 wks</td>
</tr>
<tr>
<td>Physical Therapist</td>
<td>2-4 x/mo</td>
<td>1 x/2 mos</td>
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</table>
Bibliography

Medical Literature


**Meditation**


**Living Well with Chronic Pain and Illness** (Recommendations for your patients)


Evidence-Based Treatment of Fibromyalgia
Nancy C. Rich, Ph.D., PT, FACSM

Etiology

- Morphological, histochemical, ultrastructural changes in muscles?
- Differences in amounts of high energy phosphate metabolite concentrations (ATP, ADP, Pi, lactate)?
- Differences in muscle blood flow?
- Weaker muscles?
- Decreased motor unit activity?

Etiology

- “… although muscular pain has been a central feature of FMS syndrome, controlled studies of muscle fail to support a convincing role for muscle in the pathophysiology of the condition. Muscle tenderness in fibromyalgia cannot be explained on the basis of primary muscle abnormalities, either structural or functional.” (Simms, 1996)

Etiology

“…these results and previous investigations support the hypothesis that hyperalgesia in these patients with FM is due to an upregulation in the central nociceptive system.”

Sorensen et al., 1998

Etiology

- “Patients with FMS have lowered mechanical and thermal pain thresholds, high pain ratings for noxious stimuli, and altered temporal summation of pain stimuli”

Goldenberg et al. Management of Fibromyalgia Syndrome. JAMA, 2004;292:2388-2395
Etiology

• Hyperalgesia and Allodynia
  – Based on changes in nociception
  – Hyperalgesia = an increased response to noxious stimuli
  – Allodynia = a reduction in pain threshold

• Robert Bennett, 1999
  – Dorsal horn cells become more sensitive
  – Original receptive fields increase in size
  – New receptive fields in muscle and skin become active

• Central sensitization = hyperexcitability of CNS neurons
  • Pillemer et al (1999) instructed that the hyperexcitability of the CNS is controlled by activation of N-methyl-D-aspartate (NMDA) receptors.
  • Substance P reacts with neurokinin (NK\textsubscript{1}) receptor sites which causes release of excitatory amino acids which activates NMDA receptors

• Substance P can travel long distances in the spinal cord and sensitize neurons away from the site of an injury

• Russell et al, 1994: Cerebrospinal fluid of patients with FMS was approximately 3 times that found in controls.

• Sleep disturbance
  – People with FMS demonstrate abnormalities of stages 1-4
  – People with FMS demonstrate an average of 60% of Non-REM sleep with alpha waves intruding, versus 25% normals

• Somatomedin C – also called insulin-like growth factor 1 (IGF-1)
  – Mediates the amount of growth hormone that is secreted
  – Growth hormone necessary for muscle healing
– Decreased in people with FMS
– 80% of a 24 hour production of growth hormone is secreted during stages 3 & 4 of sleep

Etiology

• Bennett et al.
  – Somatomedin C levels in patients with FMS were 124.7 ± 47 ng/ml
  – Somatomedin C levels in persons without FMS were 175.2 ± 60 ng/ml

Etiology

• Psychological Disturbances
  – “… fibromyalgia might share a genetic abnormality with disorders such as migraine and major depression, but different genetic or environmental factors, such as susceptibility or exposure to certain viral antigens, may be necessary for the development of fibromyalgia.” (Hudson et al, 1985)

  “The majority (65% to 80% of patients with fibromyalgia do not have an active psychiatric disorder.” (Goldenberg, 1989)

  “…it is not clear that psychological disturbance can predict a specific chronic pain syndrome such as FS or whether psychological disturbance is the general result of experiencing chronic pain.”

Patient Presentation

• Pain… “all over”
• Stiffness
• Swelling
• Overwhelming fatigue
• Tender points
• Muscle spasms or nodules
• Impaired memory and concentration
• Irritable bowel syndrome
• Headaches
• Interstitial cystitis

Patient Presentation

• Paresthesias
• Chest wall pain
• Sensitivity to cold & humidity
• TMJ
• Non-restorative sleep
• Urinary urgency
• Anxiety

**Trigger Point vs Tender Point**

• Tender Points: distinct and localized areas of soft tissue that are painful when 4 kg of pressure is applied by pressure or a dolorimeter. Also called ‘Mechanical hyperalgesia’
• Trigger Points: local points of tenderness in a nodule or in a taut band of muscle fibers. Trigger point pain can refer away from the point.

**Patient Presentation**

• It is important to evaluate for musculoskeletal problems
  – Rotator cuff
  – Epicondylitis
  – Carpal tunnel
  – Plantar faciitis
  – Etc.

**Intervention**

“Despite improved recognition and understanding of FMS, treatment remains challenging.”

Goldenberg et al. *JAMA*, 2004

**Intervention**

“Nonpharmacologic treatments that target pain, stress, and physical and psychological dysfunction using a variety of physical, cognitive, behavioral, and educational strategies are essential components of comprehensive treatment.”

Burckhardt CS. *Rheum Dis Clin*, 2002

**Intervention**
• Patient education
• Cognitive-behavioral strategies
• Physical Training
• Multicomponent strategies
• Complementary and alternative medicine strategies

**Intervention**

“There is strong evidence that intensive patient education is an effective treatment in FMS.”

Goldenberg et al. *JAMA*, 2004

**Education**

“planned, organized learning experiences designed to facilitate voluntary adoption of behaviors or beliefs conducive to health”

(Health Professional Association, 1994)

• One-to-one provider-patient
• Organized programs
• Fibromyalgia-specific self help course (Arthritis Foundation)

**Education**

“Basic information on fibromyalgia, treatment options, self-efficacy theory, and self-management strategies should be considered the standard of clinical care in fibromyalgia.”

Burckhardt, 2002

**Cognitive-behavioral Strategies**

• Role of thoughts, beliefs, expectations, and behaviors on symptoms
• How to prioritize time and activities
• How to balance work, leisure, and ADL

**Intervention**

• Self-efficacy
  – Sense of control
    • Mastery experiences
• Modeling
• Social persuasion
• Physiological feedback

**Intervention**

“There is strong evidence that cardiovascular exercise is effective treatment in FMS.”

Goldenberg et al. *JAMA*, 2004

**Intervention**

“This review reports moderate to strong evidence that exercise programs that meet ACSM guidelines for aerobic training produce short-term improvements in cardiorespiratory fitness, and pain pressure threshold of FMS tender points.”

Busch et al. Cochrane Database, 2003

**Intervention**

• Bennett et al., (2002) found in their study that 80% of persons with FMS had a below average level of aerobic fitness

**Intervention**

“Aerobic exercise should be regarded as a legitimate and useful treatment component in the management of FMS. Improvement can be expected in aerobic performance, tender points, and global well-being.”

Busch et al., 2003

**Intervention**

“This review reports moderate to strong evidence that exercise programs that meet ACSM guidelines for aerobic training produce short-term improvements in cardiorespiratory fitness, and pain pressure threshold of FMS tender points.”
Exercise Training


Cardiovascular Training

- Document physician permission
- Guidelines from American College of Sports Medicine
  - Minimal training intensity is approximately 40-50% of Heart Rate Reserve

Cardiovascular Training

- Heart Rate Reserve (Karvonen formula)
  - HRR = maximum heart rate minus resting heart rate
  - Maximum heart rate = 220 – age
  - Calculate % HRR (e.g. 50-80% HRR) - *may have to start much lower for patients with FMS
  - Add resting HR to each value

Karvonen Formula

Target HR range = 

$$([HR_{max} - HR_{rest}] \times 0.40 - 0.50) + HR_{rest}$$

Cardiovascular Training

Age = 40
Max HR = 220 – 40 = 180
Resting HR = 60 bpm
180-60 = 120
120 x .40 = 48; 120 x .50 = 60
48 + 60 = 108; 60 + 60 = 120
Target HR = 108 - 120
* HR attained in water will be 16 bpm less than on land

### Cardiovascular Training

<table>
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<tr>
<th>Intensity</th>
<th>%HRR</th>
<th>RPE</th>
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<td>Very Light</td>
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<tr>
<td>Light</td>
<td>20-39</td>
<td>10-11</td>
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<tr>
<td>Moderate</td>
<td>40-59</td>
<td>12-13</td>
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<tr>
<td>Hard</td>
<td>60-84</td>
<td>14-16</td>
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<tr>
<td>Very hard</td>
<td>&gt;85</td>
<td>17-19</td>
</tr>
<tr>
<td>Maximal</td>
<td>100</td>
<td>20</td>
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**Cardiovascular Training**
- Goal is 20-60 minutes of continuous or intermittent (minimum of 10 minute bouts) of aerobic activity
- May take a year to get there!!!

**Intervention**

Moldofsky (1976)
- One group of patients performed cardiovascular exercise and had a 29.1% increase in peak work capacity
- One group performed flexibility exercises and had a 4.3% decrease in peak work capacity

**Intervention**

Gowans et al., 1999
- Therapeutic pool
- 20 mins walking/jogging/sidestepping/arm exercises
- 5 mins of stretching pre and post
- HR = 60%-70% age-adjusted max
- Educational sessions on topics of posture, ADLs, sleep, relaxation, medications, nutrition, coping skills
  *6 weeks of exercise (2x/week)

**Outcome Measures**

Gowans et al., 1999
- 6 minute walk
Arthritis Self-efficacy scale
Fibromyalgia Impact Questionnaire
Knowledge questionnaire

Results

• Exercise groups improved in 6-minute walk, well-being, fatigue, self-efficacy, knowledge

Intervention

Gowans et al., 2001

• Exercise group: 10 mins stretching, 20 mins aerobic exercise at 60-75% age-adjusted max HR (first 6 weeks in a therapeutic pool, then walking and jogging in a gymnasium)
• Control Group

Outcome Measures

• Beck Depression Inventory
• 6-minute walk test
• State-Trait Anxiety Inventory (STAI)
• Mental Health Inventory (MHI)
• Tender point number
• FIQ
• Arthritis Self-Efficacy Scale

Results

• Exercise group improved in 6-minute walk distances, BDI, STAI, FIQ, ASES, MHI

Intervention

Schacter et al., 2003

– Group 1 = Long Bout of Exercise (10 mins week 1 to 30 mins by week 9) – 1x/day
– Group 2 = Short Bout of Exercise (5 mins week 1 to 15 mins week 9) – 2x/day
– Control
* home-based, low impact aerobics
* HR started at 40-50%, increased to 65-75% by week 12

Outcome measures
• FIQ
• Pain Diagrams
• Arthritis Impact Scale
• Chronic Pain Self-Efficacy Scale
• Tender Point Number
• Treadmill Test – Peak Oxygen Uptake

Results

• Dropout of 14% (ctrl), 38% (SBE), 29% (LBE)
• No differences between exercise groups
• SBE and LBE improved in disease severity
  “Out training stimulus may have been inadequate because participants found
  the mode of exercise unsuitable or too difficult or because of the isolation
  of a home-based program…”

Intervention

• Martin et al., 1996
  – Group 1 exercised 20 mins walking at 60-80% max HR and 20 mins
    flexibility and 20 mins strength training (3x/week for 6 weeks)
  – Group 2 was a relaxation group – visualization, yoga, autogenic
    relaxation (3x/week for 6 weeks)

Outcome Measures

• FIQ
• Illness Intrusiveness Questionnaire
• Self-Efficacy Questionnaire
• Visual Analog Scale
• Treadmill – time to volitional exhaustion
• Sit and Reach
• Isokinetic Strength
• Myalgic Score (sum of tender point scores)
• Tender point (0-4 tenderness at each site)

Results

• Tender point number decreased in exercise group
• Myalgic Score decreased for exercise group
• Aerobic fitness increased for exercise group
• Sit and Reach increased for exercise group
Intervention

- Wigers et al., 1996
  - Group 1 = Aerobic exercise: high intensity aerobic exercise (60-70% max HR) – 45 mins 3x/week for 14 weeks (warm-up +2 peaks of high intensity training of 3-4 mins followed by 15 minutes aerobic games (tag, ball games), ending with stretching)
  - Group 2 = Stress Management- 90 mins 2x/week for first 6 weeks and then 1x/week for 8 weeks
  - Group 3 = Treatment as Usual (aquatic, psychomotor treatment, medications)

Outcome Measures

- Pain drawing
- VAS scales for pain, disturbed sleep, lack of energy, and depression
- Pressure tenderness in 90 points
- Work capacity with cycle test
- Global subjective improvement – 4 step scale

Results

- Aerobic exercise group improved pain distribution, tenderness of tender points, work capacity, VAS pain, VAS lack of energy, global subjective improvement
- Stress management group improved tenderness of tender points, VAS pain, VAS depression

Intervention

McCain et al., 1988

- Cardiovascular fitness group: 60 mins 3x/week for 20 weeks (10 min warm-up, cycling at >150 bpm,
- Flexibility group: 60 mins 3x/week for 20 weeks

Outcome Measures

- VAS pain
- Body diagram – pain
- Sleep quality questionnaire
- Pain threshold – total myalgic score
- Predicted peak work capacity
- Symptom checklist – 90 - Revised
Results

• Exercise group improved in pain threshold scores, global assessment by patient and physician

Intervention

• Meyer & Lemley, 2000
  – High Intensity Exercise: 40% HRR at week 1, increased 10% for the first 4 weeks, 5% for weeks 5,6, and 10 to a max of 85%
  – Low Intensity Exercise: 25% HRR at week 1, increased 5% per week for first 6 weeks, to a max of 60% at week 10
  – * Exercise duration began at 12 min to 30 min for the last 4 weeks

Outcome Measures

• Tender point number
• Resting Heart Rate
• Exercise Heart Rate
• Blood Lactate
• Rating of Perceived Exertion
• FIQ
• Beck Depression Inventory
• State Anxiety Inventory
• Pain Scale
• Health Assessment Questionnaire Disability Index

Results

• Only 8 subjects completed the study so groups were combined for analysis
• Resting HR and HR decreased
• FIQ did show a trend to decrease more in the low-intensity group

Intervention

Ferraccioli et al., 1987
• True EMG – Biofeedback: 15 sessions 2x/week- progressive relaxation training
• False EMG - biofeedback : no instruction
• control

Outcome Measures

• Number of tender points
• Grip strength
• Morning stiffness
• VAS – pain
• Clinical questionnaire

Results
• Only true group improved in all measures

Intervention
Rooks et al., 2002
• Phase I in a pool – AROM; Phase 2 on land treadmill, elliptical device, walking on a track. Strength training on machines, hand weights, and body weight
• No control group
*20 week program (60 min sessions, 3x/week)

Outcome Measures
• 1 Repetition max
• 6-minute walk
• FIQ

Results
• Improvements in strength, 6-minute walk distance, FIQ

Intervention
McCain, 1986
• Exercise group: 20 week program (3x/week) at HR >150 – bicycling
• Flexibility group

Outcome Measures
• Myalgic Scale – dolorimetry (pain thresholds)
• VAS
• Pain diagram
• Predicted peak work capacity
• Psychologic profile

Results
• Exercise group improved in VAS, total myalgic score, percentage total body area of pain, psychologic profile

**Intervention**

Mannerkorpi et al., 2000
• Exercise group: temperate pool – 1x/week for 35 mins – also 6 one hour education sessions
• Control group

**Outcome Measures**

• FIQ
• Short-Form 36
• Multidimensional Pain Inventory
• Arthritis Self-Efficacy Scale
• Arthritis Impact Measurement Scale
• Quality of Life Questionnaire
• 6-minute walk test
• ROM
• Strength

**Results**

• Exercise group improved in FIQ, 6-minute walk, physical function, grip strength, pain severity, social functioning, psychological distress, quality of life

**Intervention**

Richards and Scott, 2002
• Aerobic exercise (treadmills & bicycles)
• Relaxation & Flexibility
*each group met 2x/week for 12 weeks
*exercise increased from two 6-minute sessions to two 25-minute sessions per class

**Outcome Measures**

• Self-rated change in global impression scale
• Tender point number
• FIQ
• Chandler fatigue scale
• McGill pain questionnaire (short form)
• SF-36

Results
• 35% of the exercise group and 18% of the control group improved in the global impression scale
• Exercise group had decreased tender point counts at one year post

Why does exercise result in improvements in FMS?
“Exercise whether administered short-term to unfit persons or long-term to fit persons leads to significant alterations in opioid and non-opioid as well as neural and hormonal intrinsic pain regulatory systems. For example, strenuous exercise leads to predictable increases in serum levels of beta-endorphin-like immunoreactivity, ACTH, prolactin, and growth hormone…”
McCain, 1986

Why?
“Other hypotheses suggest that exercise may improve circulation within the muscles, improve sense of control over the body, and increase the resistance of trained muscle to microtrauma.”
Sandstrom & Keefe, 1998

Multidisciplinary
“There is strong evidence that multidisciplinary treatment is effective in treating FMS.”
Goldenberg et al, 2004

Multidisciplinary
• Doctors (rheumatologists)
• Psychologists/Psychiatrists
• Physical Therapist (exercise physiologist)
• Social workers
• Occupational therapists
• Sleep specialists
• Headache specialists
• Massage therapists
• Acupuncturists
• endocrinologists
Exercise

“The results of the present study indicate that engaging in regular exercise and having higher exercise self-efficacy significantly predict continued engagement in exercise behavior in people with FMS. Factors such as age, employment status, depression, education level, self-efficacy for managing FMS, and the size of one’s social network also demonstrate predictive qualities.”
Oliver & Cronan, 2002

Physical Therapy Treatments

• Validate the symptoms
• Education
• Cardiovascular Training (non-impact)
• Patient needs to be sleeping well
• Energy conservation
• Active participation
• MUST NOT increase pain or fatigue
• Initially, no eccentric exercise

Physical Therapy Treatments

• Musculoskeletal System
• Posture correction
• Ergonomics
• Body mechanics
• Modalities???
• AQUATIC THERAPY
• Diary of flare-ups

Exercise Prescription

• Minimize Muscle Microtrauma
  - no/little eccentric exercise
• Minimize Central Sensitization
  - must not cause a flare-up
• Emphasize low-intensity exercise
• Individualized exercise
• Maximize self-efficacy
Jones & Clark, 2002
Exercise Prescription

- 12 week exercise program
  - 4 supervised visits 1st 90 min session and follow-up at 1, 3, & 9 weeks
  - at home pts performed 60-120 mins/week of aerobic exercise at 60-85% max HR
  - weekly exercise logs
  - examined exercise adherence 3 months post

Exercise Prescription

- High in-treatment adherence predicted maintenance of exercise
- Higher baseline disability predicted worse maintenance
- Increased barriers to exercise predicted less exercise
- Inclusion of Cognitive Behavioral Therapy produces better results (self-efficacy)
  
  Dobkin et al., 2005

Outcome Measures

- Fibromyalgia Impact Questionnaire


Resources

- American College of Rheumatology
  1800 Century Place, Suite 250
  Atlanta, GA 30345-4300
  Phone: (404)633-3777
  http://www.rheumatology.org

- The Arthritis Foundation
  PO Box 7669
  Atlanta, GA 30309-0669
  1-800-283-7800
  http://www.arthritis.org
Resources

• Fibromyalgia Network
PO Box 31750
Tucson, AZ  85751-1750
1-800-853-2929
http://www.fmnetnews.com

• National Fibromyalgia Research Association
2200 N. Glassell St.
Suite A
Orange, CA 92865
1-800-544-2345, ext 265

Thank You For Attending

Any Questions ?

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References


