Clinical Case Report Competition

West Coast College of Massage Therapy
New Westminster

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First Place Winner

Shawn Mercer

Fibromyalgia case study: can full body light to moderate palmar caudal stroking improve sleep and reduce pain for a patient with fibromyalgia?
Acknowledgements

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Abstract

Fibromyalgia (FM) is an idiopathic muscular rheumatic disorder that affects primarily the adult population, and is comprised of symptoms of pain in tender spots dispersed over the body, interrupted sleep, and chronic fatigue. Other studies have shown that combining different types of massage techniques can improve sleep hours, decrease fatigue and pain post treatment for patients with FM. The goal of this study was to see if a more specific massage technique, known as full body light to moderate palmar caudal stroking, can improve sleep and decrease pain for a patient from this population, the latter observed through sleep hours, sleep quality and medication intake. The participant was a 60-year-old female diagnosed with FM in 2004 who received five massage therapy sessions. In her daily journal, the patient reflected upon, graded and recorded the outcome markers known as sleep hours, sleep quality and medication intake, among other remarks. These outcome markers were plotted on a graph and interpreted as minimally improved through slope calculations. This leads to inconclusive evidence that full body light to moderate palmar caudal stroking may help, in the long term, improve sleep and decrease pain for patients suffering from FM.

Keywords: fibromyalgia, palmar stroking, chronic pain, interrupted sleep. Revised Fibromyalgia Impact Questionnaire, massage therapy
Introduction

Fibromyalgia is an idiopathic muscular rheumatic disorder affecting 2-6% of the adult population (Rattray & Ludwig, 2000), and more prevalently, females over 50 years old (Wierwille, 2012). Sufferers chiefly experience achy, burning, radiating pain in tender spots spread over the body; interrupted sleep; and chronic fatigue (Wierwille, 2012). Symptoms may become exacerbated with psychosocial, cognitive or behavioural influences (Wierwille, 2012). Factors that are thought to affect the etiology of FM are a genetic link, a history of depression, and traumatic incidences (Wierwille, 2012). In 2010, The American College of Rheumatology (ACR) has devised a list consisting of 40 somatic symptoms, also known as naturally accompanying diseases of FM, varying from headaches, constipation, Raynaud’s hives, irritable bowel syndrome, and insomnia for example (Wierwille, 2012; figure 1). Though the tender point count test for FM can provide information to the therapist about a patient’s chief complaints, it is no longer the main diagnostic test for FM as the ACR deemed it unreliable since the execution of providing 4 kg of force to each tender point was difficult to observe, and because an estimated 80% of FM sufferers do not meet the tender point test requirement to stand as positive for FM (Wolfe & Häuser, 2011). This test has been replaced by The American College of Rheumatology 2010 preliminary diagnostic criteria, which can measure the disease’s severity by addressing a series of symptoms that accompany FM instead of solely FM’s characteristic of pain (Wolfe & Häuser, 2011). This test is described in detail in the “methods” section.

Though there is not an abundance of studies on the effects of massage therapy on FM, those that do exist have shown that massage sessions can result in a decrease of
tender points, salivary cortisol, feelings of anxiety, fatigue, stiffness and depression, an improvement in sleep hours, and immediate post-treatment pain reduction (Kilchman, 2010). Existing studies on massage therapy and FM or insomnia incorporated many types of massage therapy techniques in one treatment such as myofascial release, trigger point therapy, ischemic compressions, stretching techniques, and passive range of motion for example (Lawler & Cameron, 2006; Field et al., 2002). Most likely, all these techniques were beneficial to the clients, however the reports did not show which modality provided the best results. None appeared to use a strict specific caudal stroking pattern for every treatment, which this study has to offer.

Among Swedish massage techniques, palmar stroking proves to be a flexible one that allows a therapist to chose the length, pattern and depth of the strokes. This made it a desirable modality, which would allow access to the majority of the patient’s surface area as the patient experiences pain all over the body. As per Rattray and Ludwig, it is contraindicated to employ deep techniques for patients with FM as this may overstretch their muscles and may result in increased pain post massage (2000). With this, light to moderate pressure was a desirable depth, which was represented as a 1 or 2 out of 5 using the pain scale with the patient (1=light touch, 2=therapeutic feel good touch, 3=therapeutic feel good pain, 4=pain you can breathe through, 5=stop). Light palmar stroking with decreased rhythm and longer strokes towards the feet, also known as caudal strokes, has been discussed as being a sedating technique, indicated for cases of insomnia, painful conditions and stress (Bootsma, 2013). Since the treatments’ short term goals were to decrease sympathetic nervous system firing and decrease general pain, this technique could potentially help the patient relax and provide temporary pain relief,
optimally leading to the achievement of the long term goals of increasing sleep hours and quality and decreasing chronic pain.

The long term goals were measured through the quantitative outcome markers of hours of sleep per night, medication ingestion per day (mg), and the qualitative outcome marker of quality of sleep using a verbal analogue scale (VAS) through journaling. Sleep time and quality were chosen as outcome markers to measure sleep improvement because the patient, whose initials are “LH” and who will be addressed as such throughout this report to maintain confidentiality, described not being able to sleep well due to the chronic pain she experiences. In addition, medication dependency was the outcome marker to measure decrease in chronic pain because it would present as a simple value directly correlated to the pain LH was experiencing day to day.

The following concepts relating massage to the pain gate theory and to sleep improvement confirm that a patient with FM is an ideal candidate for a case study based on palmar caudal stroking.

It is important to address the concept of pain when discussing FM, as this is one of the disease’s most urgent symptoms. Chronic pain has not yet been fully understood, however the latest theories imply that FM pain has persisted for a long enough time inside the patient to have disrupted the normal process of deactivating an area of the cortex of the brain that is associated with emotion – it is constantly “turned on” which can lead to alterations of neuronal connections to each other, and even to their physical presentation due to a wearing effect of the pain that the patient is constantly perceiving (Van Sickle, 2014). On a histological level, now that the resting state network of the brain is interrupted, the constant firing of neurons in the regions associated to pain are at risk of
becoming permanently damaged, and may even lead to necrosis due to their lack of strength to sustain such high activities for prolonged periods of time (Van Sickle, 2014). For this reason, it is logical to aim to help the brain, through gentle pressure, to remember what it is to feel relief, even if only temporarily. In order to do this, we can touch on how to reduce the physical pain that is currently being perceived by the brain, which may have catalyzed this entire process of this positive feedback loop of constantly feeling and perceiving pain.

This is where we must acknowledge the relationship between massage and the pain gate theory. For pain to be perceived by a subject, small afferent myelinated and unmyelinated pain sensing nerve fibers are stimulated and propagate nociceptive signals to the spinal cord, thus opening its pain gate which allows the projection neuron to continue the trajectory of nociception up to a part of the brain that detects pain called the thalamus (Freudenrich, 2007). In order to block this pain pathway, the inhibitory pathway must be activated by stimulating the touch and pressure sensing large myelinated nerve fibers, which send signals the fastest to the spinal cord (Deardroff, 2003). In turn, this will “close” the pain gate in the spinal cord, which consequently inhibits the thalamus to receive nociception via the projection pathway (Freudenrich, 2007). Massage therapy would classify as a mechanical influence, which combines the stimulus of pressure, vibration and proprioception, all of which stimulate large myelinated nerve fibers (Freudenrich, 2007). Thusly, through massage, therapists are able to momentarily close the patient’s pain gate (Freudenrich, 2007).

Although patients with FM often suffer from chronic fatigue, this particular subject sleeps for long periods at a time. However, LH reported during the initial
interview that these long hours are not identified as proper sleep, but rather long hours of interrupted sleep. Field et al., (2002) reported in their case study on FM and massage that “low serotonin levels may contribute to the nonrestorative sleep, mood alteration, and increased pain sensitivity noted in FM patients” (p. 73). Moreover, sleep affects substance P levels (Lawler & Cameron, 2006), which circularly affects the level of the deep sleep stage of non rapid eye movement (Field et al., 2002). Massage therapy may assist in increasing sleep by reducing sympathetic arousal, and altering serotonin levels and substance P, perhaps enhancing the quality of sleep for patients who are deprived of effective sleep due to chronic pain (Lawler & Cameron, 2006). Field et al. (2002) also mention that massage therapy may be able to improve not only sleep quality, but promote relaxation proven by the reduction of cortisol levels of patients receiving massage in the study. Having discussed that massage therapy is theorized to close pain gates by targeting large myelinated nerve fibres through pressure and improve sleep by increasing serotonin levels, it is logical to assume that palmar stroking may help reduce the disabling symptoms of FM.

Therefore, in regards to the relationship between massage, the pain gate theory, improved sleep and stroking, it is safe to hypothesize that a full body light to moderate palmar caudal stroking massage technique can improve sleep and reduce pain for patients with FM, with these goals monitored as sleep hours, sleep quality and medication intake.
Methods

The subject for this case study, referred to as LH, was discovered through a conversation with a close friend. She is a 60-year-old Estonian female who was medically diagnosed with FM in 1994 and rheumatoid arthritis in 2006. LH started feeling symptoms of FM in 1992, possibly brought on by her socioeconomic status of being a single working mother of two. The effects of FM forced LH to retire in 2005 from her job as a pharmacy technician. The major symptoms LH suffers from consist of constant deep, dull, throbbing, achy pains throughout her entire body, poor quality of sleep and lack of energy. Her treatment history consists of visits with a chiropractor, naturopath, acupuncturist and physiotherapist, none of which have been able significantly alleviate her symptoms. She takes an analgesic drug used to reduce chronic pain called Codeine Contin. Major aggravating factors are stress, house chores and social outings while her relieving factors are deep heat (from the shower or fireplace), the company of her pets and the absence of family complications.

During the initial assessment, the patient presented with slight hyperlordosis, slight flexion of the cervical spine paired with extension of the suboccipitals. Bilateral upper trapezus’, levator scapulae and suboccipitals were hypertoned and tender on palpation. Although the patient’s entire body experiences chronic pain, LH feels the pain primarily in her neck and shoulders, which lead to functional testing and spinal joint exams oriented around the cervical spine. (See Appendix F)

During functional testing, shoulder checking was within normal limits bilaterally with a feeling of discomfort in the posterior neck muscles, while the up and down test caused pain up and down the posterior neck and between the scapulae during flexion which lead
to light headedness. The spinal joint exam of the cervical spine left the patient feeling very sore in the shoulders and interscapular area for a couple of days, which is why there were no more spinal joint exams included in the rest of the study in order to eliminate its negative effect on the patient. She presented with no neurological symptoms, and joint play and manual muscle testing were omitted during the assessment and future sessions as they were not applicable to the goals of the case study and were potentially aggravating procedures. Remedial exercise and hydrotherapy were also not included during the course of this study during massage therapy or as homecare as the modality was aimed to be strictly palmar stroking. (See Appendix F)

During our initial assessment, we conducted two special tests. LH tested positive for The American College of Rheumatology 2010 preliminary diagnostic criteria. This diagnostic criteria form is complete with a Widespread Pain Index, a Symptoms Severity Index, and requires the patient to have symptoms present at a similar level for at least 3 months, and for the absence of other disorders that would otherwise explain the pain (Wierwille, 2012). For the Widespread Pain Index, LH scored 19 and a 10 for the Symptom Severity Score, which satisfies the diagnostic criteria, confirming that the patient is indeed suffering from FM (figure 1). The second test was the tender points test, guided by Rattray and Ludwig’s description of the test including control points (2000).
Table II. The American College of Rheumatology 2010 preliminary diagnostic criteria for fibromyalgia (1).

The American College of Rheumatology 2010 preliminary diagnostic criteria for fibromyalgia

Criteria:
A patient satisfies diagnostic criteria for fibromyalgia if the following three conditions are met:
1) Widespread Pain Index ≥ 7 and Symptom Severity Score ≥ 5 of Widespread Pain Index between 3 and 6 and Symptom Severity Score ≥ 9
2) Symptoms have been present at a similar level for at least 3 months
3) The patient does not have a disorder that would otherwise explain the pain

Ascertainment:

1) Widespread Pain Index (WPI): Note the number areas in which the patient has had pain over the last week. In how many areas has the patient had pain? Score will be between 0 and 19:
- Shoulder girdle, Lt
- Shoulder girdle, Rt
- Upper arm, Lt
- Upper arm, Rt
- Lower arm, Lt
- Lower arm, Rt
- Hip (buttock, trochanter), Lt
- Hip (buttock, trochanter), Rt
- Jaw, Lt
- Jaw, Rt
- Upper leg, Lt
- Upper leg, Rt
- Lower leg, Lt
- Lower leg, Rt
- Chest, Neck
- Lower back
- Abdomen

2) Symptom Severity Score:
- Fatigue 3
- Waking unrefreshed 3
- Cognitive symptoms 2

For each of the three symptoms above, indicate the level of severity over the past week using the following scale:
0 = No problem
1 = Slight or mild problems, generally mild or intermittent
2 = Moderate: considerable problems, often present and/or at a moderate level
3 = Severe: pervasive, continuous, life-disturbing problems

Considering somatic symptoms in general, indicate whether the patient has:
0 = No symptoms
1 = Few symptoms
2 = A moderate number
3 = A great deal of symptoms

The Symptom Severity Score is the sum of the severity of the three symptoms (fatigue, waking unrefreshed, cognitive symptoms) plus the extent (severity) of somatic symptoms in general. The final score is between 0 and 12.

For reference purposes, here is a list of somatic symptoms that might be considered: muscle pain, irritable bowel syndrome, fatigue/tiredness, problems sleeping or remaining asleep, muscle weakness, headache, pain/tingling in abdomen, numbness/tingling, distension, insomnia, depression, constipation, pain in upper abdomen, nausea, nervousness, chest pain, blurred vision, fever, diarrhea, dry mouth, itching, wheezing, Raynaud’s, bronchitis, rigidity in ears, sun sensitivity, hearing difficulties, easy bruising, hair loss, frequent urination, painful urination, and bladder spasms.

(Wierwille, 2012)

Figure 1. Diagnostic criteria from The American College of Rheumatology 2010, with LH’s results.

(Wolfe & Häuser, 2011)

Figure 2. Tender point locations from The American College of Rheumatology 1990 criteria for the classification of fibromyalgia.
LH tested positive for this test as she checked off 17 of the 18 true FM tender points, all except the right medial collateral ligament proximal to the joint line, and was positive bilaterally for one of the control points known as the deltoid muscle insertion point. Weekly special tests comprised of the patient filling out an FIQR form prior to each treatment. (See Appendix A) This test was revised in 2009 by Drs. Robert Bennett and Ron Friend, who further developed this tool to represent the entire spectrum of issues related to FM and the response of patients to therapy (Bennett et al., 2009). The questionnaire evaluates the effects of FM on a patient in 3 domains. For example, the “functional” domain asks the patient about the difficulty they may experience in their activities of daily living such as shopping and house chores; the “overall” domain addresses the patient’s weekly goals; and the “symptoms” domain asks the patient to rate symptoms such as pain and depression (“FIQR Scores”, n.d.). (See Appendix A) Each of LH’s FIQR scores were calculated and interpreted according to the scoring and interpreting protocol outlined by Bennett. (See Appendix B; Appendix C) The method of recording outcome markers was through LH’s daily journal consisting of the following daily entries: “sleep hours”, sleep quality recorded as “wake feeling rested” rated with a verbal analogue scale (VAS) out of 5, and “medication intake” measured by mg per day. In addition to these outcome markers, the patient recorded a list of “aggravated areas” with a self-reported “rating of pain” using a VAS score out of 5, “feeling of wellness” with a VAS out of 10 and an “additional comments” section. (See Appendix D; Appendix E) Graphs were then plotted in regards to the different criteria of the daily journal and the FIQR test scores (figure 4 – 8). The slope of each was then calculated using the Microsoft
Excel program in order to see if there were positive or negative effects of massage on these different aspects.

The ultimate goal of improving sleep and decreasing pain was hypothesized to be attained through 5 sessions of massage (1 day/week) using a full body technique called light to moderate (1-2/5 on the pain scale) palmar caudal stroking, the patient spending 22 minutes prone and 22 minutes supine for a total of 44 minutes of direct treatment time. This treatment followed a specific stroking pattern with all strokes caudal, slow and long in nature (figure 3; Table 1).

![Figure 3. Treatment pattern.](image)

<table>
<thead>
<tr>
<th>Treatment pattern label</th>
<th>Area</th>
<th>Time spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prone</td>
<td></td>
<td>~22 minutes</td>
</tr>
<tr>
<td>1, 2 (start)</td>
<td>Upper right quadrant: back and arm</td>
<td>~4-5 minutes</td>
</tr>
<tr>
<td>3</td>
<td>Lower right quadrant: posterior leg</td>
<td>~4-5 minutes</td>
</tr>
<tr>
<td>4, 5</td>
<td>Upper left quadrant: back and arm</td>
<td>~4-5 minutes</td>
</tr>
</tbody>
</table>
The beginning of LH’s journal started February 17th 2014 and ended on April 12th 2014. Between these dates, five massage sessions were completed on: March 2nd, March 8th, March 23rd, March 29th and April 5th of 2014. The following daily categories were selected and plotted on a graph: sleep time and quality, medication consumption, self-reported pain and overall feeling of wellness (figure 4-7). In addition, the five FIQR scores are displayed on a graph (figure 8). The following graphs show the values and the slope of the outcomes markers plotted against the 55 days of journaling.
Figure 4. Sleep time measured in hours per night and sleep quality measured with a VAS per night out of 5, with 5 feeling very rested and 0 feeling not rested at all, and plotted against the 55 days of journal entries (hours of sleep mean: 8.09 hrs; mode: 8 hrs; median: 8 hrs; slope: 0.04; wake feeling rested mean: 2.78; mode: 4; median: 3; slope: 0.03).
Figure 5. Codeine Contin consumption measured in mg and plotted against the 55 days of journal entries (mean: 102.72 mg; mode: 100 mg; median: 100 mg; slope: -0.23).

Figure 6. Self-reported pain measured with a VAS out of 5, with 5 being the most pain and 0 being no pain, plotted against the 55 days of journal entries (mean: 2.2; mode: 2; median: 2; slope: 0.01).
Figure 7. Weekly feeling of wellness value with a VAS out of 10, with 10 being very happy and 0 being very unhappy, plotted against the 55 days of journal entries (mean: 4.28; mode: 4; median: 4; slope: -0.01).

Figure 8. Weekly FIQR results out of 100 plotted against 5 days of massage therapy (mean: 52.56; median: 51.5; slope: 0.49).
Discussion

The graphs appear to illustrate that none of the outcome markers show a clear pattern of incline or decline. However, the values of the slope are fractions greater or lesser than zero, which could indicate that overall, there was a small improvement or regression after the course of the case study.

Table 2 demonstrates the slope value of each category and the interpretation of the results, which indicates that sleep time, sleep quality, self-reported pain and FIQR scores slightly increased, while medication consumption, and feeling of wellness slightly decreased.

<table>
<thead>
<tr>
<th>Outcome marker:</th>
<th>Slope value:</th>
<th>Overall outcome and interpretation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleep hours</td>
<td>0.04</td>
<td>Slightly increased = positive</td>
</tr>
<tr>
<td>Sleep quality</td>
<td>0.03</td>
<td>Slightly increased = positive</td>
</tr>
<tr>
<td>Medication intake</td>
<td>-0.23</td>
<td>Slightly decreased = positive</td>
</tr>
<tr>
<td>Feeling of wellness</td>
<td>-0.01</td>
<td>Slightly decreased = negative</td>
</tr>
<tr>
<td>Self-reported pain</td>
<td>0.01</td>
<td>Slightly increased = negative</td>
</tr>
<tr>
<td>FIQR score</td>
<td>0.49</td>
<td>Slightly increased = negative</td>
</tr>
</tbody>
</table>

Table 2. Slope value and interpretation chart of outcome markers. Values highlighted in grey represent the outcome markers discussed in the hypothesis while the other values are additional outcome markers that provide further information of LH’s well-being.

The slope values indicate that the quantitative outcome markers, known as sleep hours and medication intake, and the qualitative outcome marker of sleep quality where positively affected, though the effects of full body palmar stroking were minimal. FIQR scores, overall feeling of wellness and self-reported pain values did not improve over time. With this being said, in reference to the FIQR scores, LH started in the moderate
category of FM severity scores (50-65) scoring with 51.5 and lowered to the mild severity category (15-50) post treatments scoring 49.2 (Bennett et al., 2009). (See Appendix C)

In his narrative literature review, Kilchman concluded that there is evidence that supports massage therapy as a beneficial modality for patients with FM (2010). Kilchman examined a group of studies where findings regarding pain, stiffness and sleep quality were markedly successful as these studies included dozens or a few dozen patients through randomized control trials, control groups, several massage techniques into one session over a longer period of time with a higher volume of treatment sessions. However, Kilchman noted that there needs to be a focus on the difference of results between each massage technique, discerning between deep or light techniques, each of their benefits and the physiological mechanism that these modalities might have which improve aspects of FM such as non-restorative sleep, chronic fatigue and pain (2010).

**Conclusion**

Though the final values of this case report are not a clear indication of full body palmar stroking improving certain symptoms of FM, the verbal feedback that LH reported during and immediately after each treatment was distinctly positive. At the very end of the journal, LH wrote on April 13th, 2014:

“Despite my health issues, [the] massage treatments helped in many ways. I felt more relaxed and even though my sleep was interrupted with pain, I found that I am sleeping for longer periods of time. Also I found that I was less irritable, therefore the massage treatments helped to improve my moods as well […]. Massage allows me to relax and seems to increase blood flow to my many painful areas […] thus providing some pain relief which allows some improvement in my sleep. Ordinarily, after massage therapy, I
feel better, relaxed and less pain. However by the next evening the effects have worn off! Having said that, as the weeks of treatments increased, so did the length of the effects of the massage [...]”

Though this final statement indicates that improvements were significant, and the graphs conversely indicate small improvements, LH’s impression of the effects were greater than the numerical values. This case study did not show a substantial improvement in the outcome markers, and the slope values do not reflect LH’s strong positive remarks. This leads to inconclusive evidence that full body light to moderate palmar caudal stroking may help, in the long term, alleviate sleep disturbances and pain related to FM. These findings may have transpired minimal improvements because LH has suffered from FM for over a decade, and therefore is causing the patient to suffer from persistent side effects which would require extensive therapy in order to produce significant recovery.

For future studies, it would be advised to increase the frequency of the treatments, augmenting them to at least 2 visits per week for more than 5 weeks. There should be charting of sleep interruption frequency, as this likely affected sleep quality. Comparing several groups including a control group, where each experimental group is receiving one type of massage technique would be a valuable study to see if there is one modality that is the most beneficial. Lastly, it would be interesting to see if the incorporation of guided visual imagery techniques would improve the symptoms of FM patients, as these patients’ mental health can be affected by the disease’s tendency to negatively impact the limbic system (Wierwille, 2012).
References


**Appendix A: Weekly FIQR Forms**

**REVISED FIBROMYALGIA IMPACT QUESTIONNAIRE (FIQR)**

**Last Name:** L  
**First Name:** H  
**Age:** 60

**Directions:** For each question, place an "X" in the box that best indicates how much your fibromyalgia made it difficult to do each of the following activities during the past 7 days.

<table>
<thead>
<tr>
<th>Activity</th>
<th>No difficulty</th>
<th></th>
<th>Very difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brush or comb your hair</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk continuously for 20 minutes</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Prepare a homemade meal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum, scrub or sweep floors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift and carry a bag full of groceries</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climb one flight of stairs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change bed sheets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sit in a chair for 45 minutes</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Go shopping for groceries</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Function sub-total**
\[44\]

**Directions:** For each question, check the one box that best describes the overall impact of your fibromyalgia over the last 7 days:

<table>
<thead>
<tr>
<th>Impact of Fibromyalgia</th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia prevented me from accomplishing goals for the week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was completely overwhelmed by my fibromyalgia symptoms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Impact sub-total**
\[8\]
**Fibromyalgia Case Study**

**Directions:** For each of the following 10 questions, select the one circle that best indicates the intensity of your fibromyalgia symptoms over the past 7 days.

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please rate your level of pain</td>
<td>No pain: [ ], Medium pain: [ ] × [ ] Unbearable pain: [ ]</td>
</tr>
<tr>
<td>Please rate your level of energy</td>
<td>Lots of energy: [ ] × [ ] No energy: [ ]</td>
</tr>
<tr>
<td>Please rate your level of stiffness</td>
<td>No stiffness: [ ] × [ ] Severe stiffness: [ ]</td>
</tr>
<tr>
<td>Please rate the quality of your sleep</td>
<td>Awoke well rested: [ ] × [ ] Awoke very tired: [ ]</td>
</tr>
<tr>
<td>Please rate your level of depression</td>
<td>No depression: [ ] × [ ] Very depressed: [ ]</td>
</tr>
<tr>
<td>Please rate your level of memory problems</td>
<td>Good memory: [ ] × [ ] Very poor memory: [ ]</td>
</tr>
<tr>
<td>Please rate your level of anxiety</td>
<td>Not anxious: [ ] × [ ] Very anxious: [ ]</td>
</tr>
<tr>
<td>Please rate your level of tenderness to touch</td>
<td>No tenderness: [ ] × [ ] Very tender: [ ]</td>
</tr>
<tr>
<td>Please rate your level of balance problems</td>
<td>No imbalance: [ ] × [ ] Severe imbalance: [ ]</td>
</tr>
<tr>
<td>Please rate your level of sensitivity to loud noises, bright lights, odors and cold</td>
<td>No sensitivity: [ ] × [ ] Extreme sensitivity: [ ]</td>
</tr>
</tbody>
</table>

**Symptom sub-total (for internal use only):** 45

**FIQR Total Score (for internal use only):** 4.2

= Mild
**REVISED FIBROMYALGIA IMPACT QUESTIONNAIRE (FIQR)**

**Last Name:** L  
**First Name:** H  
**Age:** 60  

**Directions:** For each question, place an "X" in the box that best indicates how much your fibromyalgia made it difficult to do each of the following activities during the past 7 days:

<table>
<thead>
<tr>
<th>Activity</th>
<th>No difficulty</th>
<th>Very difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brush or comb your hair</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Walk continuously for 20 minutes</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Prepare a homemade meal</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Vacuum, scrub or sweep floors</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lift and carry a bag full of groceries</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Climb one flight of stairs</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Change bed sheets</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Sit in a chair for 45 minutes</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Go shopping for groceries</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

**Function sub-total** (for internal use only)

**Directions:** For each question, check the one box that best describes the overall impact of your fibromyalgia over the last 7 days:

<table>
<thead>
<tr>
<th>Impact Description</th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia prevented me from accomplishing goals for the week</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>I was completely overwhelmed by my fibromyalgia symptoms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Impact sub-total** (for internal use only)
**Directions:** For each of the following 10 questions, select the one circle that best indicates the intensity of your fibromyalgia symptoms over the past 7 days.

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating</th>
<th>Symptom Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please rate your level of pain</td>
<td>No pain (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of energy</td>
<td>Lots of energy (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of stiffness</td>
<td>No stiffness (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate the quality of your sleep</td>
<td>Awoke well rested (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of depression</td>
<td>No depression (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of memory problems</td>
<td>Good memory (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of anxiety</td>
<td>Not anxious (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of tenderness to touch</td>
<td>No tenderness (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of balance problems</td>
<td>No imbalance (X)</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of sensitivity to loud noises, bright lights, odors and cold</td>
<td>No sensitivity (X)</td>
<td></td>
</tr>
</tbody>
</table>

**Symptom sub-total** 27.5

**FIQR TOTAL SCORE** 61.2 (for internal use only)

= moderate
**REVISED FIBROMYALGIA IMPACT QUESTIONNAIRE (FIQR)**

**Last Name:** LH  
**First Name:**  
**Age:** 60

**Directions:** For each question, place an “X” in the box that best indicates how much your fibromyalgia made it difficult to do each of the following activities during the past 7 days.

<table>
<thead>
<tr>
<th>Activity</th>
<th>No difficulty</th>
<th>Very difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brush or comb your hair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk continuously for 20 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare a homemade meal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum, scrub or sweep floors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift and carry a bag full of groceries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climb one flight of stairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change bed sheets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sit in a chair for 45 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go shopping for groceries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Function sub-total**

16.7

**Directions:** For each question, check the one box that best describes the overall impact of your fibromyalgia over the last 7 days:

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia prevented me from accomplishing goals for the week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was completely overwhelmed by my fibromyalgia symptoms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Overall Impact sub-total**

9
**Directions:** For each of the following 10 questions, select the one circle that best indicates the intensity of your fibromyalgia symptoms over the past 7 days.

<table>
<thead>
<tr>
<th>Question</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please rate your level of pain</td>
<td>No pain □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Unbearable pain □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate your level of energy</td>
<td>Lots of energy □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ No energy □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate your level of stiffness</td>
<td>No stiffness □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Severe stiffness □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate the quality of your sleep</td>
<td>Awoke well rested □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Awoke very tired □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate your level of depression</td>
<td>No depression □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Very depressed □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate your level of memory problems</td>
<td>Good memory □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Very poor memory □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate your level of anxiety</td>
<td>Not anxious □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Very anxious □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate your level of tenderness to touch</td>
<td>No tenderness □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Very tender □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate your level of balance problems</td>
<td>No imbalance □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Severe imbalance □ □ □ □ □ □ □ □ □ □</td>
</tr>
<tr>
<td>Please rate your level of sensitivity to loud noises, bright lights, odors and cold</td>
<td>No sensitivity □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ Extreme sensitivity □ □ □ □ □ □ □ □ □ □</td>
</tr>
</tbody>
</table>

**Symptom sub-total** (for internal use only)  
56

**FIQR TOTAL SCORE** (for internal use only)  
53.7

Moderate
**REVISED FIBROMYALGIA IMPACT QUESTIONNAIRE (FIQR)**

**March 29, 2014**

- **Last Name:** YH
- **First Name:** 
- **Age:** 60

**Directions:** For each question, place an “X” in the box that best indicates how much your fibromyalgia made it difficult to do each of the following activities during the past 7 days.

<table>
<thead>
<tr>
<th>Activity</th>
<th>No difficulty</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Very difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brush or comb your hair</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk continuously for 20 minutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare a homemade meal</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum, scrub or sweep floors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift and carry a bag full of groceries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climb one flight of stairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change bed sheets</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sit in a chair for 45 minutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go shopping for groceries</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Function sub-total (for internal use only) 15

**Directions:** For each question, check the one box that best describes the overall impact of your fibromyalgia over the last 7 days:

<table>
<thead>
<tr>
<th>Impact Description</th>
<th>Never</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Very</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia prevented me from accomplishing goals for the week</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was completely overwhelmed by my fibromyalgia symptoms</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overall Impact sub-total (for internal use only) 10
**Directions:** For each of the following 10 questions, select the one circle that best indicates the intensity of your fibromyalgia symptoms over the past 7 days.

<table>
<thead>
<tr>
<th>Question</th>
<th>No pain</th>
<th></th>
<th>Unbearable pain</th>
<th>Lots of energy</th>
<th></th>
<th>No energy</th>
<th>Severe stiffness</th>
<th>Awoke well rested</th>
<th></th>
<th>Awoke very tired</th>
<th>Very depressed</th>
<th>Very poor memory</th>
<th>Very anxious</th>
<th>Very tender</th>
<th>Severe imbalance</th>
<th>Extreme sensitivity</th>
<th>Symptom sub-total</th>
<th>FIGR TOTAL SCORE</th>
<th>Moderate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please rate your level of pain</td>
<td></td>
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<td></td>
<td></td>
<td>83</td>
<td>51.5</td>
<td></td>
</tr>
<tr>
<td>Please rate your level of energy</td>
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<tr>
<td>Please rate your level of stiffness</td>
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<tr>
<td>Please rate the quality of your sleep</td>
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<tr>
<td>Please rate your level of depression</td>
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<tr>
<td>Please rate your level of memory problems</td>
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</tr>
<tr>
<td>Please rate your level of anxiety</td>
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<tr>
<td>Please rate your level of tenderness to touch</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please rate your level of balance problems</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Please rate your level of sensitivity to loud noises, bright lights, odors and cold</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
REVISED FIBROMYALGIA IMPACT QUESTIONNAIRE (FIQR)

Last Name: L14  First Name:  Age: 60

Directions: For each question, place an "X" in the box that best indicates how much your fibromyalgia made it difficult to do each of the following activities during the past 7 days.

<table>
<thead>
<tr>
<th>Activity</th>
<th>No difficulty</th>
<th>Very difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brush or comb your hair</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk continuously for 20 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare a homemade meal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum, scrub or sweep floors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift and carry a bag full of groceries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climb one flight of stairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change bed sheets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sit in a chair for 45 minutes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go shopping for groceries</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Function sub-total: 16.2

Directions: For each question, check the one box that best describes the overall impact of your fibromyalgia over the last 7 days:

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia prevented me from accomplishing goals for the week</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was completely overwhelmed by my fibromyalgia symptoms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overall Impact sub-total: 10
**Directions:** For each of the following 10 questions, select the one circle that best indicates the intensity of your fibromyalgia symptoms over the past 7 days

<table>
<thead>
<tr>
<th>Question</th>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please rate your level of pain</td>
<td>No pain</td>
<td>Unbearable pain</td>
</tr>
<tr>
<td>Please rate your level of energy</td>
<td>Lots of energy</td>
<td>No energy</td>
</tr>
<tr>
<td>Please rate your level of stiffness</td>
<td>No stiffness</td>
<td>Severe stiffness</td>
</tr>
<tr>
<td>Please rate the quality of your sleep</td>
<td>Awoke well rested</td>
<td>Awoke very tired</td>
</tr>
<tr>
<td>Please rate your level of depression</td>
<td>No depression</td>
<td>Very depressed</td>
</tr>
<tr>
<td>Please rate your level of memory problems</td>
<td>Good memory</td>
<td>Very poor memory</td>
</tr>
<tr>
<td>Please rate your level of anxiety</td>
<td>Not anxious</td>
<td>Very anxious</td>
</tr>
<tr>
<td>Please rate your level of tenderness to touch</td>
<td>No tenderness</td>
<td>Very tender</td>
</tr>
<tr>
<td>Please rate your level of balance problems</td>
<td>No imbalance</td>
<td>Severe imbalance</td>
</tr>
<tr>
<td>Please rate your level of sensitivity to loud noises, bright lights, odors and cold</td>
<td>No sensitivity</td>
<td>Extreme sensitivity</td>
</tr>
</tbody>
</table>

**Symptom sub-total**

(for internal use only)

**FIQR TOTAL SCORE**

(for internal use only)

\[ = \text{mild} \]
Appendix B: FIQR Scoring Protocol

Scoring the FIQR and SIQR

The FIQR is much easier to score compared to its predecessor – the FIQ.

The SIQR has exactly the same scoring algorithm as the FIQR.

There are just 3 steps in scoring:

**Step 1.** Sum the scores for each of the three domains (function, overall, and symptoms)

**Step 2.**
- a. Divide function domain sum (0-90) by 3 (upper limit 30)
- b. Divide overall impact domain sum (0-20) by one (0-20) (that is, it is unchanged)
- c. Divide symptom domain sum (0-100) by 2 (upper limit 50)

**Step 3.** Add the three resulting domain scores (a, b and c) to obtain the total score of the FIQR or SIQR (range 0-100)

**Missing or multiple answers**

Consider the the questionnaire invalid if:
- 1. Two or more items are missed from the functional domain or any item is missed from the overall domain or the symptom domain.
- 2. The subject makes multiple answers to three or more individual items.

(“Scoring the FIQR and SIQR”, n.d.)

Revised Fibromyalgia Impact Questionnaire”, n.d.)
Appendix C: FIQR Scoring Interpretation

Interpretation of FIQR results

One can get an estimate of FM severity and impact from the value of total FIQR score

The average FIQR score is 63 (± 20.6), with a median value of 65

The clinical severity ranges are:

- Extreme FM: 79 - 100
- Severe FM: 65 - 79
- Moderate FM: 50 - 65
- Mild FM: 15 - 50
- Normal: 10 - 15

These values are derived from the following distribution of total FIQR scores in 8,286 FM patients

(“Interpretation of FIQR results”, n.d.)
### Appendix D: Daily Journal Outline

**REVISED FIBROMYALGIA IMPACT QUESTIONNAIRE (FIQR)**

**March 7, 20Y**

| Last Name: | H  |
| First Name: | L |
| Age: | 60 |

**Directions:** For each question, place an “X” in the box that best indicates how much your fibromyalgia made it difficult to do each of the following activities during the past 7 days:

<table>
<thead>
<tr>
<th>Activity</th>
<th>No difficulty</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Very difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brush or comb your hair</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walk continuously for 20 minutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prepare a homemade meal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vacuum, scrub or sweep floors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lift and carry a bag full of groceries</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climb one flight of stairs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change bed sheets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sit in a chair for 45 minutes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Go shopping for groceries</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Function sub-total**

(for internal use only)

**Directions:** For each question, check the one box that best describes the overall impact of your fibromyalgia over the last 7 days:

<table>
<thead>
<tr>
<th>Impact Description</th>
<th>Never</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fibromyalgia prevented me from accomplishing goals for the week</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I was completely overwhelmed by my fibromyalgia symptoms</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**Overall Impact sub-total**

(for internal use only)
Appendix E: Daily Journal
(sample entries from February, March and April; final comments page)

February 17, 2014 - Monday

- Sleep: 8 hours
- Wake feeling rested: 0
- Sleep disturbances: pain, restless, after exercise, had difficulty falling asleep
- Medication: None noted
- Aggravated areas: arms, legs, neck, shoulders, buttocks, feet, back, jaw, etc.
- Rate of pain: 3
- Symptoms of pain: dull, aching, rigid, sore
- Feeling of stiffness: 4
February 18, 2014 - Tuesday

- Sleep: 8h
- Woke up feeling: 3
- Sleep disturbances: no
- Medication: 100mg codeine continua
- Aggravated areas: arms, up legs, shoulders, neck, back, ankles
- wrists, forehead, fingers
- Rate of pain: 1
- Quality of pain: dull, achy, sore
- Ability of wellness: 0

Note:
Sleep is interrupted by chronic pain and discomfort.

February 19, 2014 - Wednesday

- Sleep: 7.5h
- Woke up feeling: 3
- Sleep disturbances: no
- Medication: 100mg codeine continua
- Aggravated areas: neck, shoulders, lower back, upper back, arms, legs, feet, ankles, wrists, fingers
- Quality of pain: dull, achy, dull
- Rate of pain: 1-2
- Ability of wellness: 0
March 5, 2014 Saturday

- Sleep: 1:25 am - 4:30 am
- 6:00 am - 9:00 am
- Wake feeling: 2-3

- Sleep disturbances: pain, sore
- Medication: codiene, codeine, corticosteroid

- Affected areas: neck, shoulder, upper/lower back, arm, leg

- Quality of pain: aching, sore
- Rate of pain: 4-5
- Feeling of wellness: 5

March 9, 2014 Sunday

- Sleep: 10:30 pm - 3:30 am
4:15 am - 5:00 am
- Wake feeling: 4

- Sleep disturbances: pain
- Medication: codeine, corticosteroid

- Affected areas: arm, arm, neck, shoulder, upper/lower back, leg, feet, arm, hand

- Quality of pain: aching, sore
- Rate of pain: 4-5
- Feeling of wellness: 5-6

Notes: After massage developed headache, aches all over and later on the evening was very fatigued, took pethem meditator.
March 10, 2014, Monday

Sleep: Fell asleep @ 6:00am 5hr
Woke up @ 11:00am
Nap 2-5pm
Wake feeling (3)

Sleep disturbances: pain

Medication: meloxicam 15mg
Aspirin (2 tabs, 816mg)

Tendinitis of the neck, shoulders, arms, upper back, legs
Quality of pain: Achy, sore
Rate of Pain: (3)
Quality of wellness: (3)
### March 21, 2014 - Monday
- **Sleep:** 5:00 am - 2:00 pm (7h)
- **Wake Feeling:** 4
- **Sleep disturbances:** dream for 4
- **Medication:** reduced antidepressant
- **Tender points:** neck, shoulder, elbow, wrists, knees, arms, legs
- **Quality of Pain:** Achy
- **Rate of Pain:** 3
- **Feeling of Wellness:** 5

### April 1, 2014 - Tuesday
- **Sleep:** 3:30 am - 9:30 am (7h)
- **Wake Feeling:** 4
- **Sleep disturbances:** discomfort, pain
- **Medication:** reduced antidepressant
- **Tender points:** neck, shoulder, elbow, wrists, knees, arms, legs
- **Quality of Pain:** Achy
- **Rate of Pain:** 2
- **Feeling of Wellness:** 5
April 2, 2014  Wednesday

- Sleep: 11:30am - 6:00am
  6:45am - 10:15am
- Wake feeling: 4
- Sleep disturbance: pain, discomfort
- Medication: codeine, temazepam
- Aggravated Areas: neck, shoulders, hands, wrists, back, arms, legs
- Quality of Pain: Achy
- Rate of Pain: 2
- Feeling of well-being: 5

April 3, 2014  Thursday

- Sleep: 11:30am - 6:00am
  7:00am - 10:00am
- Wake feeling: 2
- Sleep disturbance: pain, discomfort
- Medication: codeine, temazepam
- Aggravated Areas:
- Quality of Pain: Achy, stiff, spasm
- Rate of Pain: 3-4
- Feeling of well-being: 5
<table>
<thead>
<tr>
<th>Date</th>
<th>Sunday</th>
<th>Saturday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sleep</td>
<td>5:00 am - 10:00 am</td>
<td>11:00 pm - 1:00 am</td>
</tr>
<tr>
<td>Wake Time</td>
<td>2 hours</td>
<td>2 hours</td>
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<tr>
<td>Sleep Quality</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Medication</td>
<td>Codeine 100 mg</td>
<td>Codeine 100 mg</td>
</tr>
<tr>
<td>Aggravated Areas</td>
<td>Neck, shoulders, back</td>
<td>Neck, shoulders, back</td>
</tr>
<tr>
<td>Quality of Pain</td>
<td>Achy/stiff</td>
<td>Achy/stiff</td>
</tr>
<tr>
<td>Rate of Pain</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Feeling of Wellness</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
April 12, 2014 Saturday

"Sleep: 11:35 pm - 4:30 am 4:30 am - 10:30 am 6:30 am
70 bpm"

Wake feeling: ☀
Wake disturbance: ☀
Restless: ☀
Medication: codeine continuing

Dosage: Oral: 8 mg, nebulizer: 25mg, oral: 6mg

Quality of Pain: Achy, stiff
Radiation: no
Rating of Pain: ☀
Feeling of Wellness: ☀

April 13, 2014 - Notes

Despite my health issues, your massage treatments helped in many ways. I felt more relaxed and even though my pain was interrupted with periods of time, I found that I got relief for longer periods of time. Also, I found that if massage was available, they were the massage treatments helped to improve my mood as well. I would say your case study is very successful.

Additional Notes:
Massage reduces me to the best and seems to increase blood flow to my many painful
Appendix F: Treatment Records
Please complete this form in order to assist us in becoming familiar with your health history, and to ensure that massage therapy services provided are not contraindicated for you.

1. Are you currently receiving treatment from any of the following healthcare practitioners?
   - ☐ Chiropractor
   - ☐ Massage Therapist
   - ☑ Medical Doctor
   - ☐ Physiotherapist
   - ☐ Other: ______________________

2. Are you over the age of 16? ☑ Yes ☐ No

   Please note: Massage therapy cannot be given if you are under the age of 16 years without the consent of a parent or legal guardian.

3. Are you presently involved in a WCB or ICBC litigation / claim involving an injury? ☐ Yes ☑ No

   Please note: Massage therapy cannot be given at WCCMT if you are on an ICBC / WCB claim.

4. Have you had a bad/negative reaction to heat or cold? ☐ Yes ☑ No

5. How did you hear about the WCCMT student clinic?
   - ☐ Friend
   - ☐ Student
   - ☐ Co-worker
   - ☐ Family
   - ☐ Website
   - ☐ Advertising
   - ☐ Other: ______________________

Please check ☑ if any of the following apply to you:

**General**
- ☐ Allergies
- ☐ Depression/Anxiety
- ☐ Dizziness
- ☐ Fainting
- ☐ Fatigue
- ☐ Headaches
- ☐ Loss of sleep
- ☐ Weight loss/gain
- ☐ Other: ______________________

**Muscle / Joint / Bone**
- ☐ Arthritis
- ☐ Low Back Pain
- ☐ Mid Back Pain
- ☐ Muscle weakness
- ☐ Neck Pain
- ☐ Osteoporosis
- ☐ Sore/Achy
- ☐ Stiff / Tight
- ☐ Other: ______________________

**Skin**
- ☐ Bruise easily
- ☐ Dry / Oily
- ☐ Eczema
- ☐ Hives / Rash
- ☐ Psoriasis
- ☐ Other: ______________________

**Cardiovascular**
- ☐ Anemia
- ☐ Arteriosclerosis
- ☐ Cold feet
- ☐ Edema
- ☐ Heart Disease
- ☐ High/Low blood pressure
- ☐ Pace Maker
- ☐ Poor Circulation
- ☐ Rapid/Irregular pulse
- ☐ Rheumatic fever
- ☐ Stroke
- ☐ Swelling of ankles
- ☐ Varicose veins
- ☐ Other: ______________________

**Women**
- ☑ Menopause
- ☐ Pregnant
- ☐ Yes ☑ No
  - if yes # months: ______
  - Breast conditions: ______________________

**Respiratory**
- ☐ Asthma
- ☐ Bronchitis
- ☐ Chest Pain
- ☐ Chronic Cough
- ☐ Difficulty breathing
- ☐ Emphysema
- ☐ Pneumonia
- ☐ Other: ______________________

**Gastrointestinal**
- ☐ Abdominal Pain
- ☐ Appendicitis
- ☐ Constipation
- ☐ Diarrhea
- ☐ Heart Burn
- ☐ IBS/Chrohn’s/Colitis

**Systemic Disorders**
- ☐ Cancer
- ☐ Diabetes (Type ______)
- ☐ Fibromyalgia
- ☐ HIV / AIDS
- ☐ Osteoporosis
- ☐ Polio Syndrome
- ☐ Thyroid disease
- ☐ Other: ______________________

**Nervous System**
- ☐ Epilepsy
- ☐ Multiple Sclerosis
- ☐ Numbness / Tingling
- ☐ Other: ______________________

Patient information is considered strictly confidential under the guidelines of the Personal Information Protection and Electronic Documents Act (PIPEDA).

Please turn over.
FIBROMYALGIA CASE STUDY

PATIENT INTAKE FORM

Give a brief detailed description of the problem you are currently experiencing:

fibromyalgia + rheumatic arthritis pain

How long have you had this condition? _years. Is it getting worse/better? Stable at the moment.

Does it bother you (check appropriate box): ( ) work, ( ) sleep, ( ) other:

What seemed to be the initial cause: stress.

Are you currently satisfied with your:

- Physical health & fitness? ( ) Yes ( ) No
- Mental and emotional happiness? ( ) Yes ( ) No
- Diet? ( ) Yes ( ) No
- Ability to relax? ( ) Yes ( ) No

Do you exercise regularly? ( ) Yes, ( ) No. How often? Please specify: Yoga once a week.

How is most of your day spent? ( ) Standing, ( ) Sitting, ( ) Other: ( )

When was your last physical exam? ___.

Please describe your stress level: ___.

Past Health History:

- Have you ever:
  - Been hospitalized (surgeries etc.) ( ) Yes ( ) No
  - Suffered from depression/anxiety? ( ) Yes ( ) No
  - Had any broken bones? ( ) Yes ( ) No
  - Had any strains or sprains? ( ) Yes ( ) No
  - Used orthotics? ( ) Yes ( ) No
  - Had pins, plates, screws, rods, prosthesis, breast implants? ( ) Yes ( ) No

Please list any medications you are currently taking and why:

Calcium, Cortef for pain management; Hydroxyzine for anxiety

Alcohol, tobacco, and recreational drug use: ( ) Yes ( ) No

Is there anything else your student therapist should know?

Consent and Release:

I acknowledge that the above information is accurate and true to the best of my knowledge. I fully understand that this is a teaching massage clinic and accordingly, a clinic instructor may be present during any aspect of my treatment. Our clinic makes every effort to ensure that your experience here is safe, effective and enjoyable.

The West Coast College of Massage Therapy Inc., its employees, servants and agents (the "college"), do not accept liability for any claim as to the method or manner of treatment given, or any complaint related to supposed conditions arising from therapy. In good and valuable consideration, the undersigned does hereby release and forever discharge the College, its successors and assigns, from any other legal obligations and compensation of whatsoever kind and howsoever arising from or out of any treatment which will be provided to the undersigned.

Please sign below to show that you fully understand and agree to the above disclaimer and stated conditions of receiving treatment at the West Coast College of Massage Therapy Clinic.

Signature: ___________________________ Date: Feb 26, 2014

Patient information is considered strictly confidential under the guidelines of the Personal Information Protection and Electronic Documents Act (PIPED)

Instructor signature: ___________________________
FIBROMYALGIA CASE STUDY

Review intake questionnaire (COs'we're red flags?)
- Why are they seeking massage therapy?

Chief concern
1. Location/radiation - referred
   - Where does it hurt? (point it)
   - Does the pain move anywhere? If so where?

2. Onset (acceleration - trauma)
   - When did it start? (gradual or sudden)
   - What is the cause of the chief concern?
   - What was the mechanism of injury?

3. Chronology/timing/previous episodes
   - Have they had anything like this before?
   - Clarify: Constant? Episode? Occasional?
   - How many times a day/week/month?

4. Quality (sharp, dull, shooting)
   - Describe the pain with a word or two?
   - Is it getting worse or better?

5. Severity (0-10) on ADLs
   - On a scale of 0-10 rate your pain (10 being the worst pain imaginable)
   - What is it at its worst? At its best?
   - Does it affect any of your daily activities? (be specific)

6. Modifying factors (better/worse)
   - What makes it feel better?
   - What makes it feel worse?

7. Associated symptoms (NMM)
   - Do they have any numbness, tingling or weakness?
   - Any other symptoms associated with chief concern?

8. Treatment history/relevant prior injuries
   - Have they seen anyone else about chief concern?
   - If yes, who? Specific & what treatment was given? Did it work?
   - Any relevant prior injuries (related to chief concern)?

9. Medications (purpose, dose, frequency, last dosage)
10. Allergies

Conditional factors
1. Hereditary conditions/family health issues
   - Do any conditions run in family?

2. Stress factors
   - What are their main stress factors?

3. Exercise/interests (activities/energy)
4. Diet (rate; good, fair, poor)
5. Sleep pattern (wake/awake)
6. Habits (alcohol, tobacco, recreational drugs)
7. Treatment goal (this treatment & long term)

"Anything else they would like to add?"
Spinal Joint Exam

Legend
- : Active ROM
- : Passive ROM
- : Hypermobility
- : Pain in ROM

Contraindications or Precautions
- Monitor pressure w/Pain in needs.
- @ extreme hydro (may trigger RA flare-up)

Additional Notes
- PT enjoys deep pressure in tender points/nodes.

1. Spinal Joint Examination: C-Spine
- Post it exam: PT feels achy in neck/shoulder/scapular aspect.

Pre-treatment
- L Rotates up into head.
- R Rotates up into head.

Post-treatment
- Discomfort in Areas not occupationally stressed.

2. Abnormal End-feels

<table>
<thead>
<tr>
<th>Movement</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

3. Restriction Pattern

<table>
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<tr>
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<th>Non-capsular</th>
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</thead>
<tbody>
<tr>
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</tbody>
</table>

4. Resisted ROM Testing

<table>
<thead>
<tr>
<th>Direction</th>
<th>Grade</th>
<th>Pain (yn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right Rot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left Rot</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Right Lat Flex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left Lat Flex</td>
<td></td>
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</tbody>
</table>

5. Joint Play (C-L) Assessment

6. Special Tests

American College of Rheumatology 2010 Preliminary Diagnostic Criteria: Widespread @ index -ve, Symphen Severity Score +ve

7. Differential Diagnosis

8. Spinal Joint Examined: C-Spine

Clinic instructor:
- Date: Feb 21 '14
### FIBROMYALGIA CASE STUDY

---

**Management Plan**

**Patient Name:** LH

<table>
<thead>
<tr>
<th>#</th>
<th>Active Problems / Contraindications</th>
<th>Date</th>
<th>Inactive problems / other precautions</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fibromyalgia</td>
<td>Feb 21'14</td>
<td></td>
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</tr>
</tbody>
</table>

**Phase of care** (use problem #):

- Simple Corrective
- Rehabilitation
- Palliative
- Maintenance
- Preventative
- Stress Management
- Other

**Domain of involvement**

- General:  
  - Pain, stress, functional issue, decreased ROM, other:
  - Orthopedic Rehabilitation: muscle, capsule/tendon, peripheral joint, axial joint, fascia, bursa, other:

**Conditional factors**: 5 3 2 1 none

**Specifics**: emotional, disease enforeed behavior, negative motivation, societal/environmental, legal/medical, physical environment

Specify where relevant:

**Home instructions**:

- Ice, heat, rest, stretching, strengthening, balance, aerobic, posture, proprioceptive
- Area, type, sets, reps:

**Work restrictions/modifications**

- Yes off work: light duty with no lifting over ____________ kg for the next ____________ Comments: stopped work in 2005

**Treatment modality**

- Massage: systemic ____________ regional ____________ neuromuscular ____________
- Trigger point ____________ fascial release ____________ mobilization stretches ____________ MLD ____________
- Joint play mobilization ____________ traction ____________ PNF ____________ PROM ____________ AROM ____________
- Hydrotherapy ____________ Cryotherapy ____________ Heat ____________ Contrast Bath ____________
- Paraffin ____________ Other: moderate deep palmar striking (Sw.M)

**Treatment frequency**

<table>
<thead>
<tr>
<th>#</th>
<th>x/wk for 5-10 wks; x/wk for wks; x/month for months</th>
<th>x/wk for wks; x/wk for wks; x/month for months</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Treatment goals**

- **Short term**:
  - SNS score ______
  - Gen: ______
  - Sleep hours ______
  - Sleep quality (wakes fewer nights) ______

- **Long term**:
  - Improve overall well-being ______
  - Nutritional intake ______
  - Relaxation/meditation ______

**Outcome criteria**

- Shawn Meier

---

Clinic Instructor:

Date: Feb 21'14
FIBROMYALGIA CASE STUDY

Date: March 2, '14  visit #: 2

S VAS: 5/10  improving, □ no change, □ worsening
CIs:  □ extreme hyper (R.A)

- Monitor pressure (meds)

- Headache, back pain

- Stiffness, achiness in C-spine, shoulders, interscapular area, after 1st appt.

- [From spinal fusion] — cause

- HT W-traps (L) (R)

- HT leukopoenia (R)

- HT suboccipital W-traps

Functional/Special Test:

Shoulder check:

- Pain:

- Movement:

- Swed

- MFR

- NMT

- MFTP (see technique pressure pattern)

- MTAR

- Joint mobilization

- MET

- PROM, AROM

- P stretch, A stretch

- Heat, Cold

- Other:

P

PTR: ___ days, ___ wks, ___ mth, □ PRN

Home care (FID - frequency, intensity, duration):

□ Stretch

□ Strengthen

□ Postural

□ Heat

□ Cold

Outcome markers post Tx:

- Light headedness

- A little sleepy

- Pt seems relaxed.

Treatment Goals:

- Improved sleep quality

- Medication dependency

- Overall wellness

Student: Shawn McCar

Clinic Instructor: J.H.

---

Date: March 8, '14  visit #: 3

S VAS: 5/10  improving, □ no change, □ worsening
CIs:  □ extreme hyper (R.A)

- Fell relaxed after last appt.

- Fewer of mildness, Head feels clearer.

- Sleep quality a little better.

- Reverses back to shoulders

- lump in C spine neck, arms, upper back, fingers, FT.

Functional/Special Test:

- Apley’s (R)

- Sup NCP (R)

- Full body

- Full body (R)

- NCP (R)

- Full body

- Joint mobilization

- MET

- PROM, AROM

- P stretch, A stretch

- Heat, Cold

- Other:

P

PTR: ___ days, ___ wks, ___ mth, □ PRN

Home care (FID - frequency, intensity, duration):

□ Stretch

□ Strengthen

□ Postural

□ Heat

□ Cold

Outcome markers post Tx:

- Pt seems relaxed

- Feels like they’ve been relaxed

- Increased mobility (feels in her head)

Treatment Goals:

- Improved sleep quality

- Medication dependency

- Overall wellness

Student: Shawn McCar

Clinic Instructor: J.H.

---

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FIBROMYALGIA CASE STUDY

**Date:** April 5 '14, visit #: 6

**VAS:** 5/10, a: improving, o no change, w: worsening

**CI's:**
- More relaxed, less anxiety
- Sleep, 6 hours, improvement
- Gradual improvement overall

**O:** I've been walking more, so hip pain is a bit discomfort.
- Present goals: stay warm, rest more, mobilize.

**Functional/Special Test:**
- Neutral position of feet test (+ve)
- Neutral position of elbow

**Refer:**
- Physical therapy referral

- **P: Swed, MFR, NMT, FMT, MTAR**
- **F: Joint mobilization, MET**
- **R: PROM, AROM, P stretch, A stretch**
- **C: Heat, Cold**
- **O: Other:**

**PTR:** 3 days, 5 wks, 7 mth, PRN 1 day/week

**Home care (FID - frequency, intensity, duration):**
- Stretch
- Strengthen
- Postural
- Heat
- Cold

**Outcome markers post Tx:**
- Feel v. relaxed
- Sleep: 6 hours, quality
- Wake up feeling good
- Overall well-being

**Student:**

**Clinic Instructor:**

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