



The M.T. Wellness Clinic

Medical Restorative Massage Therapy

Joint Wellness Program with Dave Fox Remodeling, Inc. and the M.T. Wellness Clinic

Preliminary Report of MRMT Assessments/Treatments

November 7, 2017

This preliminary report is based on detailed assessments and reports prepared by Thuy Bowyer, President and Founder of M.T. Wellness Clinic. It is separated into three parts- first, an executive summary of the pilot wellness program which provides the major findings of Thuy's assessments; second, results obtained from the onsite monitoring effort at Dave Fox Remodeling, Inc.; and third, results and insights from MRMT clinic visits/treatments for those employees with two or more visits at the M.T. Wellness Clinic.

Executive Summary

- Beginning in January of 2017, a wellness program was initiated between Dave Fox Remodeling, Inc. and the M.T. Wellness Clinic. As of October, 2017, 28 total employees participated with M.T. Wellness Clinic:
 - 11 were treated at the M.T. Wellness Clinic- 5 office employees: 4 females (80%) and 1 male (20%); and 6 carpenters: all males (100%), age 40 and over: 64%
 - 4 employees still active (regularly receiving treatments from M.T. Wellness Clinic)
 - 7 employees non-active
 - 23 were assessed on site at Dave Fox Remodeling, Inc. in the months of May and June
 - 7 carpenters: all males (100%), age 40 and over (57%)
 - 16 office employees: 3 males (19%) and 13 females (81%), age 40 and over (44%)
- Detailed reports of the onsite monitoring and assessment were emailed to each employee by Thuy. Please see attached report for an example.
- In general, the employees that were assessed on site are healthy, with most having healthy BMI values, ideal blood pressures, and active lifestyles. Please see Figures 1-5.
- During the onsite monitoring at Dave Fox Remodeling, Inc., each employee performed a series of movements to obtain a total function level score. The movements were evaluated and scored as follows: able to complete correctly, abnormally able to complete, completed with the recruitment/substitution of another muscle group/body part, barely able to complete, or unable to complete. Three activities were not completed correctly by any participating employee: lifting, pulling, and picking up an item from the floor. Most of the employees used their back to complete these activities. Please see Figures 6-7.
- The most common issues found with the carpenters during the assessments were pelvic obliquity and foot pain. Pelvic obliquity (pelvic tilt and rotation) could be improved with consistent and proper use of a Sacroiliac belt (SI belt). A SI belt, shown on page 2, will stabilize the SI joint and pelvic region and help prevent future injuries to the employees.



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- A total of 12 SI belts were purchased by Dave Fox Remodeling, Inc. and distributed to all participating carpenters at Dave Fox on October 19th, 2017. Note: 1 carpenter unexpectedly attended our demonstration who was not originally part of our wellness program and did receive a SI belt. The M.T. Wellness Clinic team fitted each carpenter for his SI belt to ensure proper wear. See below for feedback received from one of the carpenters.
 - **From:** [REDACTED]
 - **Sent:** Friday, October 20, 2017 7:41 AM
 - **To:** Thuy Bowyer; Kathlyn Fillman
 - **Subject:** Thank you
 -
 - Thuy and Katie,
 - Thank you again for your presentations yesterday, and for adapting to our unpreparedness. You did a great job. I thought I'd also mention that one of our carpenters told me only a few hours after wearing his SI belt what improvement he felt in his back. He was surprised it felt so good so fast.
 - Keep up the good work!
 -
 - [REDACTED]

- An additional concern for the carpenters was foot pain, which affects almost a third of the carpenters. Foot pain may be due to improper wear and use of work boots. A presentation (see attached power point presentation) showing proper foot position when kneeling and performing job duties was presented on October 19th, 2017. See Table 1 for a full list of painful areas affecting the carpenters.

- The most common issue found with the office employees during the assessments was low back pain, which may be due to poor desk posture. The addition of a foot rocker will allow for better desk posture and reduce strain on the hips, while allowing the office employees to both stretch and tone their lower extremities while at work. Foot rockers were purchased by Dave Fox Remodeling, Inc. and distributed to all participating office employees on October 19th, 2017. A demonstration by the M.T. Wellness Clinic team was completed for all office employees (see power point presentation attached) and a handout was distributed via email showing useful stretches and toning exercises that can be performed with the foot rocker. See Table 1 for a list of all painful areas affecting the office employees.

- Of the 11 Dave Fox Remodeling, Inc. employees that had MRMT treatments at the M.T. Wellness Clinic, 6 returned for 2 or more treatments. At their last recorded visit, the average pain level reported



by those 6 employees decreased to 2 compared to an initial score of 3, while the average reported function level increased to 88%, compared to an initial level of 77%. See Figures 8-9.

Results obtained from the onsite monitoring effort at Dave Fox Remodeling, Inc.

I. Basic Demographic Information and Self-reported Data (Figures 1-8)

In the months of May and June of this year, **23** Dave Fox Remodeling, Inc. employees participated in the onsite monitoring sessions with the M.T. Wellness Clinic. Of the employees that participated, 10 were male and 13 were female, ranging in age from 24 to 65 (see Figure 1). The average age of the employees who participated is 43; the 30-40 year old age group makes up the majority of all participating employees (44%).

Based on their self-reported heights and weights, each employee's Body Mass Index (BMI) was calculated and categorized as normal, overweight, or obese based on standards established by the National Institutes of Health (NIH). BMI is an estimate of a person's body fat and can be used to gauge the risk of various associated diseases such as heart disease, high blood pressure, Type 2 diabetes, and even certain cancers. The BMI range for the Dave Fox employees was 19.6-33.2 (see Figure 2). The average BMI of employees who participated is 25.4, which is categorized as slightly overweight by the NIH, but 48% of your participating employees have healthy BMI values. Please keep in mind that a BMI is only an estimate of body fat and does not take into account body shape or muscle tone. Nevertheless, this is a great result and shows that your employees are taking great strides in their pursuit to be healthy.

During the onsite monitoring visits, each participating employee's blood pressure was taken using a standard blood pressure cuff to evaluate their overall health and to assess the risk for hypertension and other medical conditions. Blood pressure (BP) should be monitored regularly because it is responsible for a variety of processes including ensuring normal blood flow through the circulatory system, delivering oxygen and nutrients to tissues and organs, and carrying toxins to the liver and kidneys to be removed. Blood pressure is a complex topic but typically, normal blood pressures are considered to be no greater than 120/80 by the Blood Pressure Association. Of the participating employees, most have normal or "ideal" blood pressures, with some having pre-high blood pressure (pre-hypertension) and a few others with high blood pressure (hypertension). This is an excellent result and again, shows your employees' commitment to their health and wellness. See Figure 3.

To further gauge the health and wellness of the participating employees and to gather information on their lifestyles, each employee reported their physical activity level while at work and away from work. The following activity levels were used for this assessment: **0-2** refers to a sedentary activity level with little or no exercise; **3-5** is a mild activity level with frequent walking or intense exercise for 20 minutes, a few times a week; **6-7** is a moderate activity level with intense exercise for 30-60 minutes, 3-4 times a week; and **8-10** is a heavy activity level with intense exercise for 60 minutes, 5-7 times a week or a labor intensive occupation. The majority of the participating employees have mild activity levels while at work but participate in moderate to heavy physical activity outside of work, suggesting significant effort towards healthy and active lifestyles. See Figures 4 and 5.



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All 23 participating employees also provided information regarding their use of pain medication along with current musculoskeletal pain or problems. Table 1 summarizes the percentage of employees, separated into carpenters and office employees, with specific areas of pain and their use of pain relievers. Note that for the carpenters, over half have pain in their knees and shoulders, and all have a pelvic obliquity. For the office employees, over half have low back pain and pelvic obliquity. Pelvic obliquity can cause a variety of symptoms including knee pain, lower back pain, stiff or frozen shoulders, numbness or pain in legs, and even migraines. Furthermore, pain relievers are used by about half of all the participating employees for their specific areas of pain.

Table 1: List of Painful Areas Reported by Participating Employees and the Corresponding Percentage of Carpenters and Office Employees Suffering from this Type/Area of Pain

	Percentage of Carpenters	Percentage of Office Employees
Low Back Pain	29%	63%
Mid Back Pain	43%	13%
Knee Pain	57%	6%
Shoulder Pain	57%	19%
Hand Pain	14%	6%
Feet Pain	29%	0%
Upper back/Neck Pain	14%	38%
Joint Pain	0%	6%
Hip Pain	0%	31%
Chronic Headaches/Migraines	0%	31%
Pelvic Obliquity	100%	50%
Currently using Pain Relievers	57%	44%



Figures 1-8 Illustrating Basic Demographic Information and Self-reported Data

Figure 1: Age Groups of Employees who participated in Onsite Monitoring

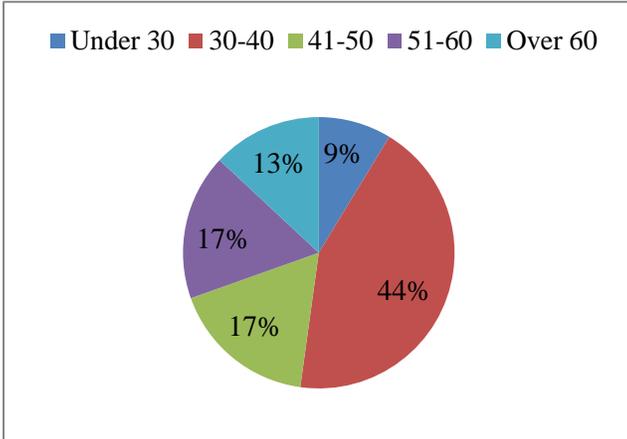


Figure 2: BMI Ranges of Employees who participated in Onsite Monitoring

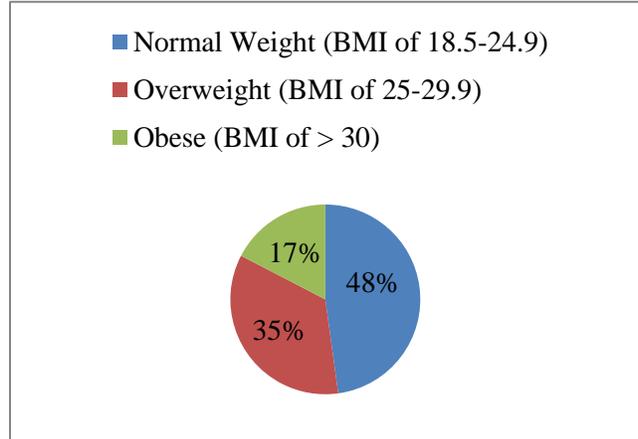


Figure 3: Blood Pressure (BP) Ranges for Participating Employees

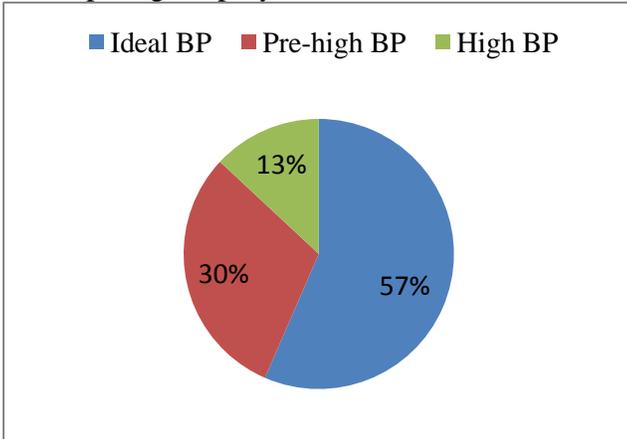


Figure 4: Daily Activity Levels of Participating Employees at Work

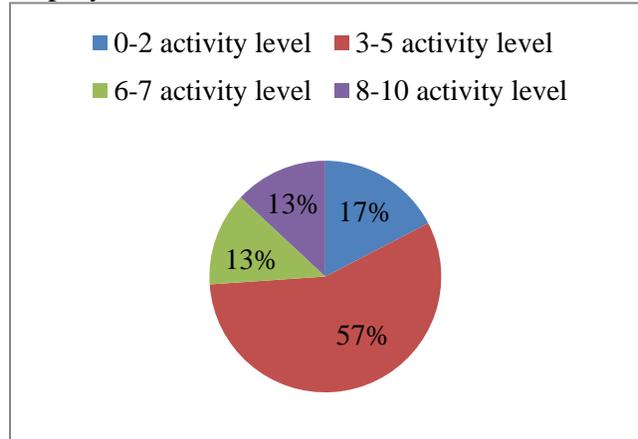


Figure 5: Daily Activity Levels of Participating Employees While Away from Work

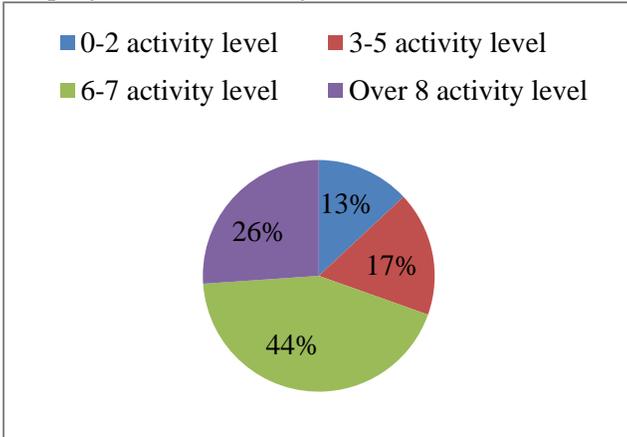
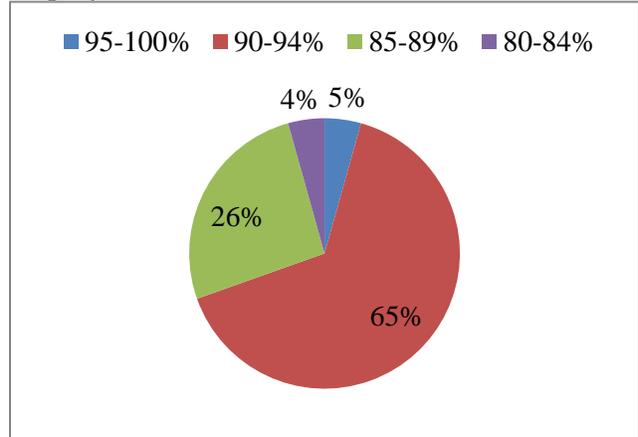


Figure 6: Total Function Level (%) of Participating Employees



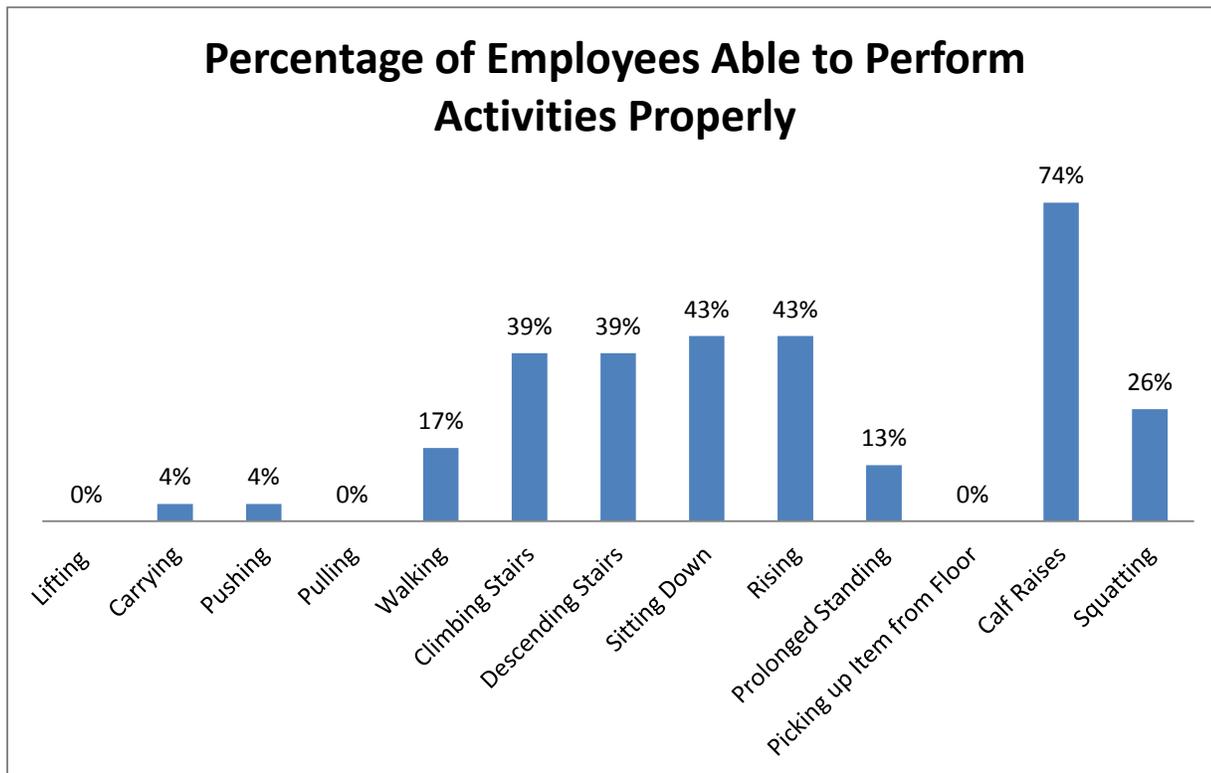


II. MRMT Assessment/Analysis

The function of all 23 participating Dave Fox Remodeling, Inc. employees was evaluated based on a series of movements, motions, and exercises, with some directly related to activities the employees would ordinarily encounter in the workplace. A total function level score was calculated for each participating employee out of a total possible 100%. The range of scores for your employees was 84-98% (see Figure 6). The average function level was 91% for both carpenters and office employees, with the majority of your participating employees earning total function levels between 90 and 95%. This is a terrific finding.

A total of 31 movements were assessed for each employee with 13 representative movements shown in Figure 7 below. Each movement was evaluated as follows: able to complete correctly, abnormally able to complete, completed with the recruitment/substitution of another muscle group/body part, barely able to complete, or unable to complete. Notably, three of these activities: lifting, pulling, and picking up an item from the floor, could not be completed properly by any participating employee. Most employees used their backs to complete these movements. Of the other 10 activities, most were still not properly performed by over half of the employees without some abnormality or the substitution/recruitment of another muscle or group.

Figure 7: Percentage of Participating Employees Able to Perform Activities Properly





Actions Taken and Recommendations based on Onsite Monitoring Assessments

Following the onsite monitoring sessions, each employee was given a detailed report and a series of follow-up summaries detailing the musculoskeletal assessment performed by Thuy,. We also provided self-care tips to improve issues such as sitting and standing posture, and use of additional self-help suggestions/tools such as techniques to use ice to minimize pain, SI belts for pelvic imbalances, foot rockers for proper desk posture, etc. Prevention and early intervention are essential to overall health and well-being. Based on observations at the onsite monitoring sessions, the recommendations in the following two paragraphs were made to Dave Fox Remodeling, Inc.

All participating employees who have labor intensive jobs, specifically carpenters, have pelvic imbalances caused by habitual unbalanced movements due to use of tool belts, previous injuries, or other factors that have perpetuated other issues in the body, including knee pain, feet pain, back pain, etc. In an effort to address the pain and loss of function for these employees, the M.T. Wellness Clinic team recommended the use of an SI belt to help stabilize the pelvis and decrease pain and the possibility of additional injuries. So far, SI belts have been distributed to a total of 12 employees, several of whom have said they found them to be very helpful in reducing their pain and increasing their function. Knee protection in the form of knee braces or work pants with reinforced knee support was also recommended for these employees. For employees with foot pain, which may be caused by improper wear of work boots, the M.T. Wellness Clinic team gave a presentation on October 19th showing additional recommendations including proper foot position while kneeling and performing work duties, proper use of the SI belt, and other relevant tips. The M.T. Wellness team plans to follow up with the carpenters for a progress report.

Another major finding from the onsite monitoring was directed at the office employees in regards to their desk posture/set-up. A number of employees had their chairs too high, which was potentially putting strain on their hips and lower back. In an effort to address this issue, the M.T. Wellness Clinic recommended the use of a foot rocker for all office employees to lift their feet up higher so that their upper leg is 90 degrees from their lower leg. The use of a foot rocker also allows employees to perform stretches and toning exercises during the day to help with stiffness and other issues caused by habitually sitting at a desk. Currently, all 16 participating office employees have been given foot rockers, and several employees said that they have noticed improvement. The M.T. Wellness Clinic team demonstrated the proper set-up and use of the foot rockers on October 19th. A handout was also emailed to each participating office employee showing examples of stretches and toning exercises that can be performed while at work. It is important for each office employee to tailor their workstation to achieve proper posture to decrease the chance of chronic pain and problems associated with improper desk posture.



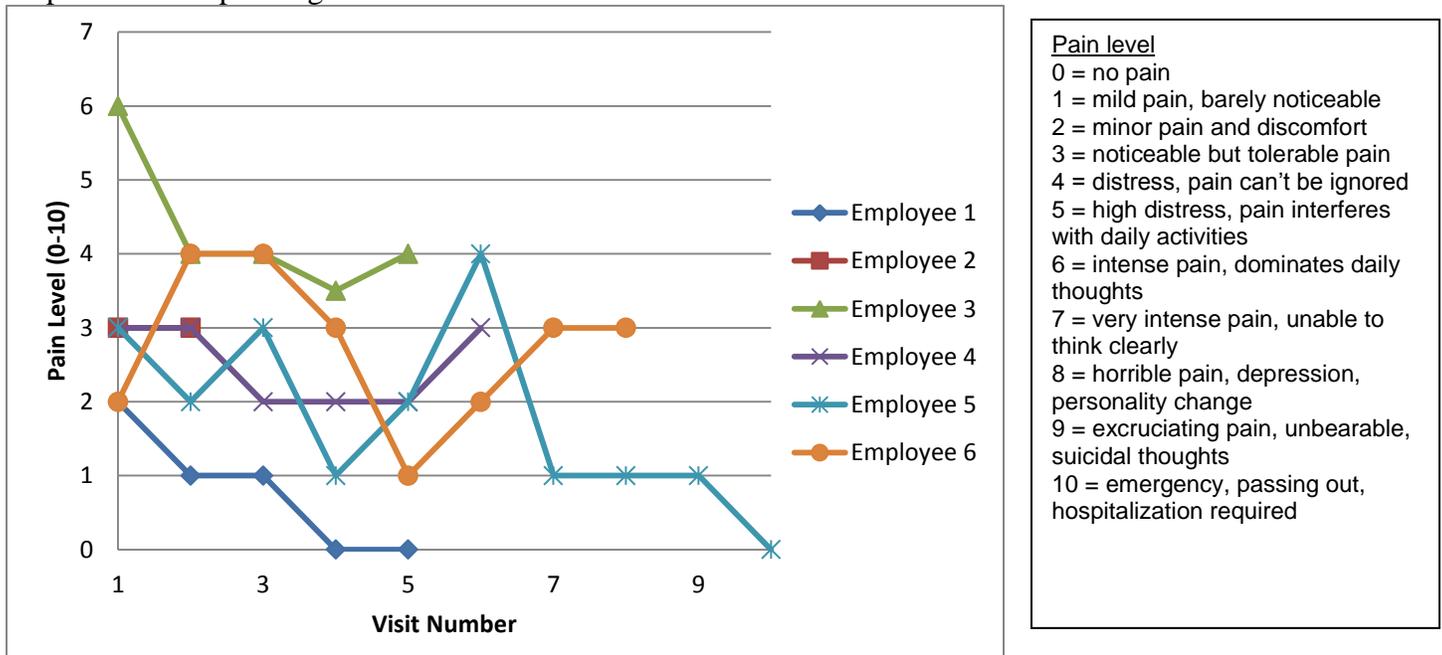
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Results and insights from MRMT clinic visits/treatments for those employees with two or more visits at the M.T. Wellness Clinic.

Between the months of January and October, **11** Dave Fox Remodeling, Inc. employees received treatments at the M.T. Wellness Clinic. Of those 11 employees, 6 have been seen at the MT Wellness Clinic for two or more treatments. Notably, 4 of these employees were also evaluated during the onsite monitoring sessions. At the initial visit, the average pain level and function level reported by the 6 employees was 3 (noticeable but tolerable pain) and 77%, respectively. **At their last recorded visit, the average pain level reported by these employees decreased to 2 (minor pain and discomfort), while the average reported function level increased to 88%** (See Figures 8 and 9 below). MRMT is focused on reducing pain while also restoring physical function. The trends in pain level reduction and function level improvement are consistent with the treatments having a positive influence on these employees, hopefully increasing their quality of life and productivity at work. Currently, the M.T. Wellness Clinic team is working on getting updates on medication use and other objective data to fully evaluate the effectiveness of the MRMT treatments for these employees.

Figure 8: Patient-Reported pain levels for each visit. All pain levels were measured on a scale ranging from 0-10 per the corresponding chart.

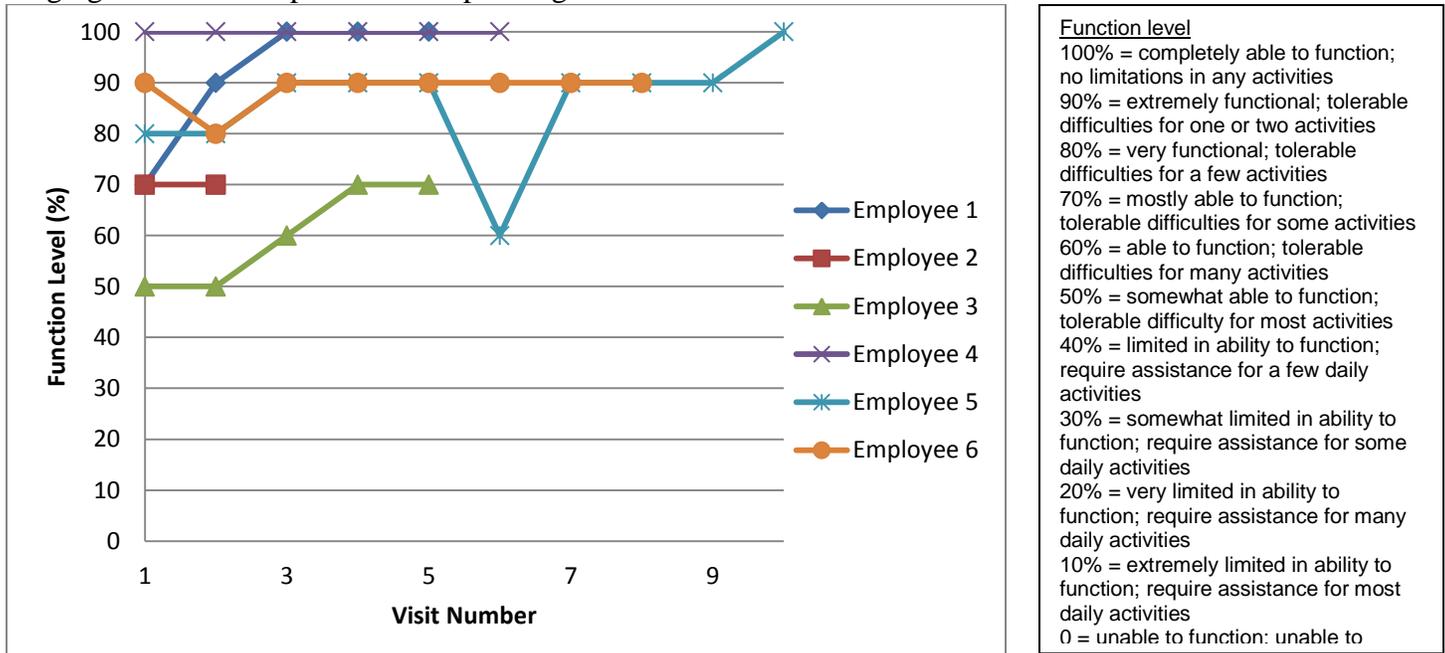




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Figure 9: Patient-Reported function levels for each visit. All function levels are expressed as a percentage value ranging from 0-100% per the corresponding chart.



An additional measure of the effectiveness of MRMT treatments is the time between treatments for patients. An increase in the time between treatments can signify that there is less of a need for treatment, which is consistent with improved function and decreased pain. By extension, we believe there will also be improved quality of life and work place productivity. The time between treatments was evaluated for the 6 employees and was found to generally increase over time for patients who have been treated more than 4 times (See Figure 10 below). On the last recorded visit for these patients, the average time passed since their last visit was about 8 weeks, comparing to 2 weeks between their initial and second visits. This trend is also indicative of a monthly cost reduction to Dave Fox Remodeling, Inc., given the overall decrease in treatments over time, and thus decreases in cost to both the employee and company. Over the course of the pilot program to date, Dave Fox Remodeling, Inc. has paid a total cost of \$3042.85; the employees have paid \$2310.10 to the M.T. Wellness Clinic. See Figure 11 below for the trends in total cost to Dave Fox Remodeling, Inc. by month since the start of the year. Concurrent with the trend observed in Figure 10, the monthly cost to the company has decreased over time due to the decrease in treatments needed by the employees.



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Figure 10: Time between Treatments for each Dave Fox Remodeling, Inc. Employee.

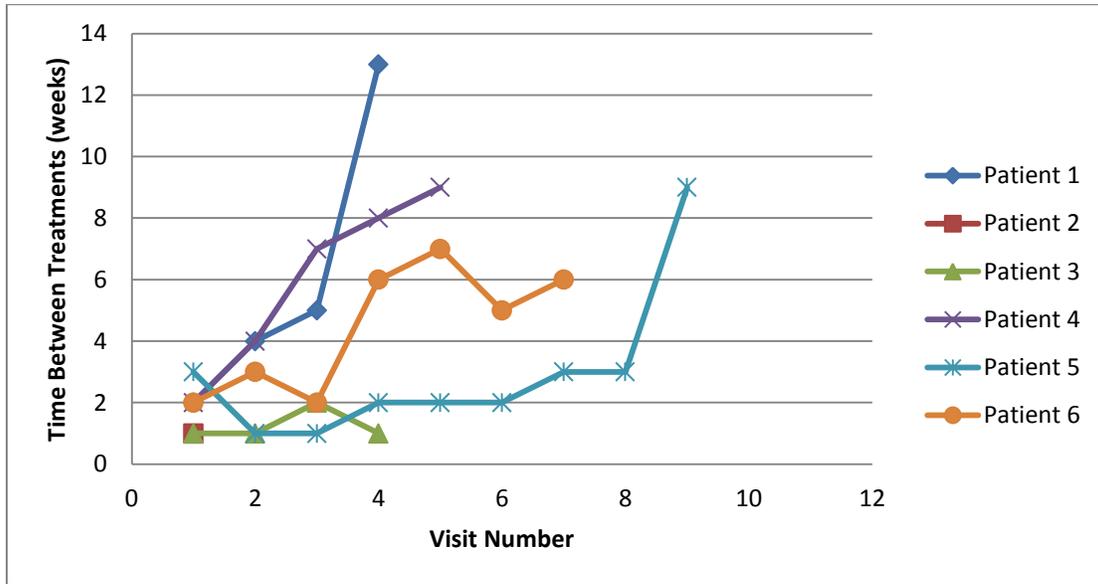
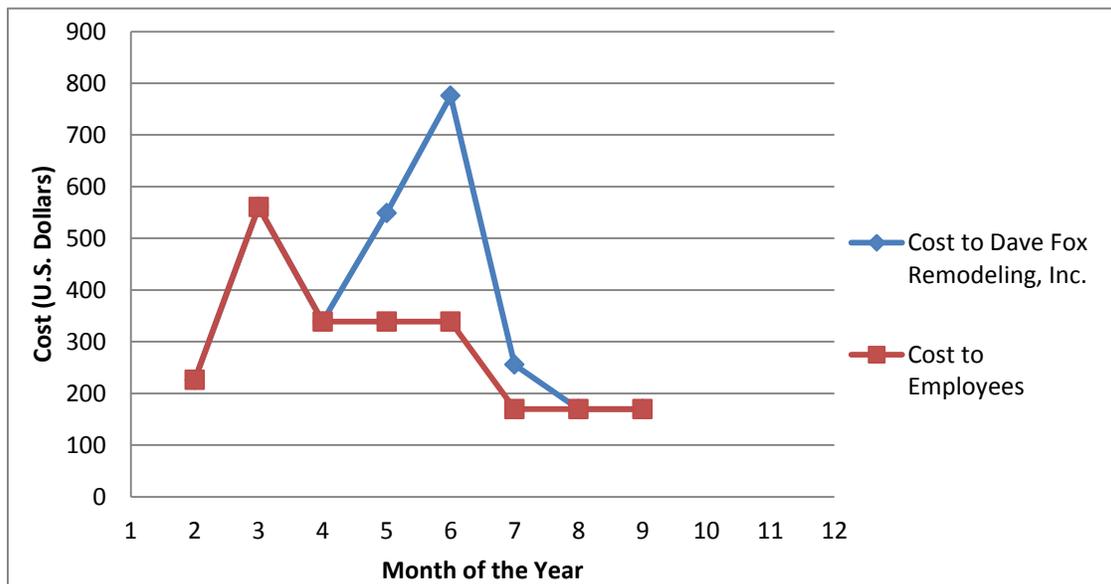


Figure 11: Total Cost by Month (1-12, where 1 = January and 12 = December) to Dave Fox Remodeling, Inc. and Employees from the Onsite Monitoring and Treatment Sessions by the M. T. Wellness Clinic.





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Conclusion and Proposal for Future Work with Dave Fox Remodeling, Inc.

Since January of this year, the M.T. Wellness Clinic team has evaluated and/or treated **28** Dave Fox Remodeling, Inc. employees at either the M.T. Wellness Clinic, or on site at Dave Fox Remodeling, Inc. For those employees that were evaluated on site, comprehensive reports and follow-up summaries were distributed that detail specific problem areas observed during the assessments, as well as recommendations and self-care guidance to help improve the identified problem areas. Findings from the assessments were used to determine the best route for prevention and early intervention for these employees, specifically, SI belts for the carpenters and foot rockers for the office employees. The M.T. Wellness Clinic team plans to call all participating employees 6 months after their initial onsite monitoring session to evaluate their progress and overall health and well-being. Then, one year after the initial onsite monitoring session, a second full assessment will be completed onsite at Dave Fox Remodeling, Inc. by the M.T. Wellness Clinic team.

For those employees that have been treated at the M.T. Wellness Clinic, an overall decrease in self-reported pain levels and increase in self-reported function levels have been observed. Furthermore, for most of these employees, the time between treatments has also increased due to their overall decrease in pain and improved function. Employees who were initially treated several times a month, now only need to be treated once every few months. This suggests an overall improvement in musculoskeletal health and wellness. The M.T. Wellness Clinic team will continue to monitor and evaluate the wellness of these employees and are currently working on obtaining updated information from these employees, including the possibility of a decrease in pain medication use.

During the course of this effort, we have identified a possible addition to our joint wellness program to further benefit all participating employees along with additional cost savings to Dave Fox Remodeling, Inc. One of your team members, [REDACTED] is currently a personal trainer and aspires to be a certified personal trainer. [REDACTED] is interested in wellness concept and collaboration; she could potentially be a liaison between M.T. Wellness Clinic and Dave Fox Remodeling, Inc. We feel that having someone from the inside to work with your employees would aid in the continuation and development of our program as she would be on site to give advice and answer any questions in real time for your employees. Unfortunately, [REDACTED] informed us on November 2nd that with everything she has going on, she is unable to get involved in the wellness work program at this time.

Thank you for your partnership! We really appreciate the opportunity to run this pilot program with your team. I am looking forward to discussing this effort further with you in detail in your office on Thursday, November 16th at 8:00 a.m. In the meantime, if you have any questions about the data in this report, please contact me directly by email (thuy@mtwellnessclinic.com) or our Clinical and Research coordinator, Katy, by email (Kathlyn.fillman@mtwellnessclinic.com) or phone (614-273-0810).

Sincerely,

Thuy Bowyer

Thuy Bowyer, BSBA, LMT, CMRMT
President