The Effect of Biofreeze® on Home Exercise Compliance, Pain and Disability in Patients with Mechanical Neck Pain

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Purpose: To determine the effect of adding Biofreeze to a home exercise program on home exercise compliance, pain and disability among mechanical neck pain patients.

Introduction: Biofreeze® is a commonly used topical analgesic. Biofreeze® is used in the clinic or given to the patient for home use to mitigate pain during the course of treatment. Because home exercise compliance rates have been reported in the literature to be 50% or lower,1-4 this study was undertaken to determine if adding a topical analgesic, can increase compliance with home exercise and decrease pain and disability among mechanical neck patients. , would enhance self-reported compliance rates. In addition, outcome measures such as pain and disability as reported by the Neck Disability Index (NDI) will also be evaluated.

Methods: Patients who present with non-radicular, mechanical neck pain to Sport and Spine Rehab (SSR) are evaluated to determine if conservative care is the appropriate treatment option. Once determined that they are a candidate for conservative care, patients are then randomized into two groups: (1) Control group, receiving the standard Funhab® in-office and home exercise program (HEP) protocols; (2) Intervention group, receiving the standard Funhab® in-office and home exercise program (HEP) protocols plus the addition of Biofreeze® to be used at home just prior to initiating their HEP. The Funhab® protocol (Sports and Spine Rehab Holdings Inc., Fort Washington) is an evidenced-driven rehab protocol to maximize appropriate clinical tools inclusive of manual therapies, physiotherapies and rehabilitative functional exercises. This protocol consists of an exercise treatment and progression that addresses local, regional and global neuro-musculoskeletal dysfunction of the back by incorporating both the biomechanical (Range of Motion, joint mobility etc.) and neurological (proprioception, coordination etc.) components of rehabilitation. In addition to manual therapy and physiotherapies, the Funhab® protocol (Sports and Spine Rehab Holdings Inc., Fort Washington) takes the patient through postural, local, regional and then full body exercise progressions to maximize their overall level of function and correct muscular imbalances and dysfunctions. Statistical analysis will be performed to assess clinically and statistically significant changes within and between the study groups .

Inclusion criteria: Patients between the ages of 18-64 years, who present to SSR with non-radicular mechanical neck pain, who are candidates for Funhab® and who consent to be in the study.

Exclusion criteria: (1) Patients not candidates for Funhab®; (2) Patients with radicular signs and/or symptoms; (3) Patients who do not consent to be in the study.

Hypothesis: Patients in the intervention group will have statistically and clinically significant higher levels of HEP compliance, lower pain and disability compared with control group patients.

Results: There are currently 12 subjects who have completed our study, with 2 males and 10 females.

Descriptive Statistics

- Currently there are 3 subjects who have been assigned to the control group and 9 who have been assigned to the Biofreeze® group.
- Currently, there are no relationships between any of the variables collected at baseline

There are no differences at baseline with patients coming from two clinics.

Conclusion: The subjects enrolled are on average 40 years old, obese {BMI=31.6} and average 14 days since onset of mechanical neck pain. None of the outcome variables were related to any of the other outcome variables. The patients from the two clinics were similar for Age BMI VAS, NDI and self-efficacy. Greater depth of analysis will occur once sample size has been reached.