Clinical Research on the Effects of Massage

Provided by:

Keith Gosline, ACSM HFS, LMT, CKTP

Personal Fitness Systems, Inc.

The practice of massage has been used for thousands of years. Despite the fact that clinical research on massage is under-funded and not frequently performed, a growing body of evidence supports the use of massage for a variety of ailments. The following pages provide summaries of some of the clinical research studies on several common illnesses and injuries.

Insurance may cover massage treatment with a physician's referral. For a patient consultation, contact Keith Gosline, owner of Personal Fitness Systems, Inc., at **651-492-3477**.

To refer a patient, fill out the Personal Fitness Systems Prescription Form and provide it to the patient to be brought to the patient's first massage appointment.

Keith Gosline, owner of Personal Fitness Systems, Inc., has extensive knowledge and training in massage. He is a Certified Health and Fitness Specialist with the American College of Sports Medicine since 1999, a Licensed Massage Therapist with a B.S. in exercise science, and a Certified Kinesio Taping Practicioner. He has taught advanced massage techniques, anatomy, kinesiology, reflexology, and nutrition since 1999. To make an appointment, call Personal Fitness Systems, Inc. at (651) 492-3477. More information is available at www.pfswellness.com. Personal Fitness Systems, Inc. is located in Falcon Heights, MN.

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Back Pain

Cherkin, D.C., Eisenberg, D., Sherman, K.J., Barlow, W., Kaptchuk, T.J., Street, J. & Deyo, R.A. (2001). Randomized trial comparing traditional Chinese medical acupuncture, therapeutic massage, and self-care education for chronic low back pain. *Archives of Internal Medicine, 161*, 1081-8.

METHODS: 262 patients who had persistent back pain received Traditional Chinese Medical acupuncture, therapeutic massage, or self-care educational materials for up to 10 massage or acupuncture visits over 10 weeks.

RESULTS: At 10 weeks, massage was superior to self-care on the symptom scale and the disability scale. Massage was also superior to acupuncture on the disability scale. The massage group used the least medications and had the lowest costs of subsequent care.

Degan, M., Fabris, F., Vanin, F., Bevilacqua, M., Genova, V., Mazzucco, M. & Negrisolo, A. (2000). The effectiveness of foot reflexotherapy on chronic pain associated with a herniated disk. *Professioni Infermieristiche, 53*, 80-7.

METHODS: A group of 40 persons suffering almost exclusively from a lumbar-sacral disc hernia received three treatments of reflexology massage for a week.

RESULTS: **Sixty-three percent of the group reported a reduction in pain.**

Ginsberg, F. and Famaey, J. P. (1987). A double-blind study of topical massage with Rado-Salil ointment in mechanical low-back pain. *Journal of International Medical Research, 15*, 148-153.

METHOD: Forty patients with acute mechanical low-back pain were treated in a double-blind manner with either Rado-Salil or placebo for 14 days.

RESULTS: **Statistically significant improvements in spontaneous pain, muscular contracture and in both the patient's and physician's opinions occurred by day 3. These improvements persisted at day 14 and, in addition, there were statistically significant improvements in the finger-floor distance and the degree of lumbar extension. Treatment with Rado-Salil also allowed significant reduction in the use of oral analgesics. Only a few localized transient side-effects, requiring no specific treatment, were observed.**

Hernandez-Reif, M., Field, T., Diego, M., & Fraser, M. (2006). Lower Back Pain And Sleep Disturbance Are Reduced Following Massage Therapy. *Journal of Bodywork and Movement Therapies,* In Press.

METHOD: Twenty-four adults with lower back pain were randomly assigned to a massage therapy or a progressive muscle relaxation group. Sessions were 30 minutes long twice a week for five weeks. On the first and last day of the 5-week study, participants completed questionnaires, provided a urine sample and were assessed for range of motion.

RESULTS: By the end of the study, the massage therapy group, as compared to the relaxation group, reported experiencing less pain, depression, anxiety and improved sleep. They also showed improved trunk flexion, and their serotonin and dopamine levels were higher.

Hernandez-Reif, M., Field, T., Krasnegor, J., & Theakston, H. (2001). Lower back pain is reduced and range of motion increased after massage therapy. *International Journal of Neuroscience, 106*, 131-145.

METHOD: A randomized between-groups design evaluated massage therapy versus relaxation for chronic low back pain. Treatment effects were evaluated for reducing pain, depression, anxiety and stress hormones, and sleeplessness and for improving trunk range of motion associated with chronic low back pain.

RESULTS: By the end of the study, the massage therapy group, as compared to the relaxation group, reported experiencing less pain, depression, anxiety and improved sleep. They also showed improved trunk and pain flexion performance, and their serotonin and dopamine levels were higher.

Preyde, M. (2000). Effectiveness of massage therapy for subacute low-back pain: a randomized controlled trial. *CMAJ, 162*, 1815-20.

METHOD: This randomized controlled trial compared comprehensive massage therapy (soft-tissue manipulation, remedial exercise and posture education), 2 components of massage therapy and placebo in the treatment of subacute (between 1 week and 8 months) low-back pain. Subjects with subacute low-back pain were randomly assigned to 1 of 4 groups: comprehensive massage therapy, soft-tissue manipulation only, remedial exercise with posture education only or a placebo of sham laser therapy. Each subject received 6 treatments within approximately 1 month. Outcome measures obtained at baseline, after treatment and at 1-month follow-up consisted of the Roland Disability Questionnaire (RDQ), the McGill Pain Questionnaire (PPI and PRI), the State Anxiety Index and the Modified Schober test (lumbar range of motion).

RESULTS: The comprehensive massage therapy group had improved function, less intense pain and a decrease in the quality of pain compared with the other 3 groups. At 1-month follow-up 63% of subjects in the comprehensive massage therapy group reported no pain as compared with 27% of the soft-tissue manipulation group, 14% of the remedial exercise group and 0% of the sham laser therapy group.

Carpal Tunnel Syndrome

Field, T., Diego, M., Cullen, C., Hartshorn, K., Gruskin, A., Hernandez-Reif, M., & Sunshine, W. (2004). Carpal tunnel syndrome symptoms are lessened following massage therapy. *Journal of Bodywork and Movement Therapies, 8,* 9-14.

METHOD: The objective of this study was to determine the effectiveness of massage therapy for relieving the symptoms of Carpal Tunnel Syndrome (CTS). Sixteen adults with CTS symptoms were randomized to a 4-week massage therapy or control group. Participants in the massage therapy group were taught a self-massage routine that was done daily at home. They were also massaged once a week by a therapist. The participants' diagnosis was based on a nerve conduction velocity test, the Phalen test, and the Tinel sign test performed by a physician. The participants were also given the State Trait Anxiety Inventory (STAI), the Profile of Mood States (POMS), a visual analog scale for pain and a test of grip strength.

RESULTS: Participants in the massage therapy group improved on median peak latency and grip strength. They also experienced lower levels of perceived pain, anxiety, and depressed mood.

Chronic Fatigue Syndrome

Field, T, Sunshine, W., Hernandez-Reif, M., Quintino, O., Schanberg, S., Kuhn, C., & Burman, I. (1997). Chronic fatigue syndrome: massage therapy effects on depression and somatic symptoms in chronic fatigue syndrome. *Journal of Chronic Fatigue Syndrome, 3*, 43-51.

METHOD: Twenty chronic fatigue syndrome subjects were randomly assigned to a massage therapy or a SHAM TENS (transcutaneous electrical stimulation) control group.

RESULTS: **Immediately following the massage therapy versus SHAM TENS on the first and last days of the study the massage therapy group had lower depression and anxiety scores and lower cortisol levels. Longer-term effects (last day versus first day) suggested that the massage therapy versus the SHAM TENS group had lower depression, emotional distress and somatic symptom scores, more hours of sleep and lower epinephrine and cortisol levels.**

Depression

Field, T., Morrow, C., Valdeon, C., Larson, S., Kuhn, C., & Schanberg, S.(1992). Massage reduces depression and anxiety in child and adolescent psychiatric patients. *Journal of the American Academy of Child & Adolescent Psychiatry, 31*, 125-131.

METHOD: A 30-minute back massage was given daily for a 5-day period to 52 hospitalized depressed and adjustment disorder children and adolescents.

RESULTS: **Compared with a control group who viewed relaxing videotapes, the massaged subjects were less depressed and anxious and had lower saliva cortisol levels after the massage. In addition, nurses rated the subjects as being less anxious and more cooperative on the last day of the study, and nighttime sleep increased over this period. Finally, urinary cortisol and norepinephrine levels decreased, but only for the depressed subjects.**

Field, T., Grizzle, N., Scafidi, F., & Schanberg, S. (1996). Massage and relaxation therapies' effects on depressed adolescent mothers. *Adolescence, 31,* 903-911.

METHOD: Thirty-two depressed adolescent mothers received ten 30-minute sessions of massage therapy or relaxation therapy over a five-week period. Subjects were randomly assigned to each group.

RESULTS: **Although both groups reported lower anxiety following their first and last therapy sessions, only the massage therapy group showed behavioral and stress hormone changes including a decrease in anxious behavior, pulse, and salivary cortisol levels. A decrease in urine cortisol levels suggested lower stress following the five-week period for the massage therapy group.**

Onozawa, K., Glover, V., Adams, D., Modi, N., & Kumar, R.C. (2001). Infant massage improves mother-infant interaction for mothers with postnatal depression. *Journal of Affective Disorders, 63*(1-3).

METHOD: Thirty-four primiparous depressed mothers at 4 weeks postpartum were randomly assigned either to an infant massage class and a support group (massage group) or to a support group (control group). Each group attended five weekly sessions.

RESULTS: **The depression scores fell in both groups. However, improvement of mother-infant interactions was seen only in the massage group.**

Fibromyalgia Syndrome

Field, T., Diego, M., Cullen, C., Hernandez-Reif, M., & Sunshine, W. (2002). Fibromyalgia pain and substance P decreases and sleep improves following massage therapy. *Journal of Clinical Rheumatology, 8*, 72-76.

METHOD: To determine the effects of massage therapy versus relaxation therapy on sleep, substance P and pain in fibromyalgia patients, twenty four adult fibromyalgia patients were randomly assigned to a massage therapy or relaxation therapy group. They received 30-minute treatments twice a week for five weeks.

RESULTS: **Both groups showed a decrease in anxiety and depressed mood immediately after the first and last therapy sessions. However, across the course of the study only the massage therapy group reported an increase in the number of sleep hours and a decrease in their sleep movements. In addition, substance P levels decreased and the patients' physicians assigned lower disease and pain ratings and rated fewer tenderpoints in the massage therapy group.**

Sunshine, W., Field, T., Schanberg, S., Quintino, O., Kilmer, T., Fierro, K., Burman, I., Hashimoto, M., McBride, C., & Henteleff, T. (1996). Massage therapy and transcutaneous electrical stimulation effects on fibromyalgia. *Journal of Clinical Rheumatology, 2*, 18-22.

METHOD: Thirty adult fibromyalgia syndrome subjects were randomly assigned to a massage therapy, a transcutaneous electrical stimulation (TENS), or a transcutaneous electrical stimulation no-current group (Sham TENS) for 30-minute treatment sessions two times per week for 5 weeks.

RESULTS: **The massage therapy subjects reported lower anxiety and depression, and their cortisol levels were lower immediately after the therapy sessions on the first and last days of the study. The TENS group showed similar changes, but only after therapy on the last day of the study. The massage therapy group improved on the dolorimeter measure of pain. They also reported less pain the last week, less stiffness and fatigue, and fewer nights of difficult sleeping. Thus, massage therapy was the most effective therapy with these fibromyalgia patients.**

Hypertension

Hernandez-Reif, M., Field, T., Krasnegor, J., Theakston, H., Hossain, Z., & Burman, I. (2000). High blood pressure and associated symptoms were reduced by massage therapy. *Journal of Bodywork and Movement Therapies, 4*, 31-38.

METHOD: High blood pressure is associated with elevated anxiety, stress and stress hormones, hostility, depression and catecholamines. Massage therapy and progressive muscle relaxation were evaluated as treatments for reducing blood pressure and associated symptoms. Adults who had been diagnosed as hypertensive received ten 30-minute massage sessions over five weeks or they were given progressive muscle relaxation instructions (control group).

RESULTS: **Sitting diastolic blood pressure decreased after the first and last massage therapy sessions and reclining diastolic blood pressure decreased from the first to the last day of the study. Although both groups reported less anxiety, only the massage therapy group reported less depression and hostility and showed decreased urinary and salivary hormone levels (cortisol). Massage therapy may be effective in reducing diastolic blood pressure and symptoms associated with hypertension.**

Headache

Foster, K.A., Liskin, J., Cen, S., Abbott, A., Armisen, V., Globe, D., Knox, L., Mitchell, M., Shtir, C., & Azen, S. (2004). The Trager approach in the treatment of chronic headache: a pilot study. *Altern Ther Health Med., 10*, 40-6.

METHOD: Thirty-three volunteers with a self-reported history of chronic headache and with at least one headache per week for at least 6 months received Trager massage.

RESULTS: **Participants randomized to Trager massage demonstrated a significant decrease in the frequency of headaches, improvement in head quality of life and a 44% decrease in medication usage.**

Quinn, C., Chandler, C., & Moraska, A. (2002). Massage therapy and frequency of chronic tension headaches. *American Journal of Public Health, 92*, 1657-1661.

METHOD: This study examined the effects of massage therapy on chronic, nonmigraine headache. Four chronic tension headache sufferers (aged 18-55 yrs) received structured massage therapy treatment directed toward the neck and shoulder muscles during a 4-wk period.

RESULTS: **Massage therapy reduced the number of weekly headaches. Headache frequency was significantly reduced within the initial week of massage treatment, and continued for the remainder of the study. A trend toward reduction in average duration of each headache event between the baseline period and the treatment period was also observed.**

Migraine

Lawler, S. & Cameron, L. (2006). A randomized, controlled trial of massage therapy as a treatment for migraine. Annual Behavior and Medicine, 32, 50-9.

METHODS: Migraine sufferers (N = 47) who were randomly assigned to massage or control conditions completed daily assessments of migraine experiences and sleep patterns for 13 weeks. Massage participants attended weekly massage sessions during Weeks 5 to 10. State anxiety, heart rates, and salivary cortisol were assessed before and after the sessions. Perceived stress and coping efficacy were assessed at Weeks 4, 10, and 13.

RESULTS: **Compared to control participants, massage participants exhibited greater improvements in migraine frequency and sleep quality during the intervention weeks and the 3 follow-up weeks. Trends for beneficial effects of massage therapy on perceived stress and coping efficacy were observed. During the sessions, massage induced decreases in state anxiety, heart rate, and cortisol.**

Hernandez-Reif, M., Field, T., Dieter, J., Swerdlow. & Diego, M., (1998). Migraine Headaches are Reduced by Massage Therapy. *International Journal of Neuroscience, 96*, 1-11.

METHOD: Twenty-six adults with migraine headaches were randomly assigned to a massage therapy group, which received twice-weekly 30-minute massages for five consecutive weeks or a wait-list control group.

RESULTS: **The massage group reported fewer distress symptoms, less pain, more headache free days, fewer sleep disturbances and taking fewer analgesics. They also showed increased serotonin levels**

Multiple Sclerosis

Hernandez-Reif, M., Field, T., & Theakston, H. (1998). Multiple sclerosis patients benefit from massage therapy. *Journal of Bodywork and Movement Therapies, 2*, 168-174.

METHOD: Twenty-four adults with multiple sclerosis were randomly assigned to a standard medical treatment control group or a massage therapy group that received 45-minute massages twice a week for 5 weeks.

RESULTS: **The massage group had lower anxiety and less depressed mood immediately following the massage sessions, and by the end of the study they had improved self-esteem, better body image and image of disease progression, and enhanced social functioning.**

Siev-Ner, I., Gamus, D., Lerner-Geva, L., & Achiron, A. (2003). Reflexology treatment relieves symptoms of multiple sclerosis: a randomized controlled study. *Mult Scler., 9*, 356-61.

METHOD: Seventy-one MS patients were randomized to either a study or control group, to receive an 11-week treatment. Reflexology treatment included manual pressure on specific points in the feet and massage of the calf area. The control group received nonspecific massage of the calf area.

RESULTS: **Significant improvement in paresthesias, urinary symptoms and spasticity was detected in the reflexology group. Improvement with borderline significance was observed in muscle strength between the reflexology group and the controls. The improvement in the intensity of paresthesias remained significant at three months of follow-up.**

Spinal Cord Injuries

Diego, M.A., Field, T., Hernandez-Reif, M., Hart, S., Brucker, B., Field, Tory, Burman, I. (2002). Spinal cord patients benefit from massage therapy. *International Journal of Neuroscience, 112*, 133-142.

METHOD: The study assessed the effects of massage therapy on depression, functionality and upper body muscle strength and range of motion on spinal cord injury patients. Twenty spinal cord injury individuals recruited from a medical school outpatient clinic were randomly assigned to a massage therapy or a control group. Patients in the massage therapy group received two-40-minute massage therapy sessions per week for five weeks. Patients in the control group practiced a range of motion exercise routine targeting the arms, neck, shoulders and back two times per week for five weeks.

RESULTS: Although both the massage and exercise group appeared to benefit from treatment, only the massage group showed lower anxiety and depression scores and significantly increased their muscle strength and wrist range of motion.