

AMTA Position Statement Proposal

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BACKGROUND INFORMATION:

The National Institute of Neurological Disorders and Stroke describes a tension headache as follows:

“...previously called muscle contraction headache, is the most common type of headache. Its name indicates the role of stress and mental or emotional conflict in triggering the pain and contracting muscles in the neck, face, scalp, and jaw. Tension-type headaches may also be caused by jaw clenching, intense work, missed meals, depression, anxiety, or too little sleep. Sleep apnea may also cause tension-type headaches, especially in the morning. The pain is usually mild to moderate and feels as if constant pressure is being applied to the front of the face or to the head or neck. It also may feel as if a belt is being tightened around the head. Most often the pain is felt on both sides of the head. People who suffer tension-type headaches may also feel overly sensitive to light and sound but there is no pre-headache aura as with migraine. Typically, tension-type headaches usually disappear once the period of stress or related cause has ended.”¹

For this most common type of headache massage is “definitely indicated” according the *Massage Therapist’s Guide to Pathology*.²

Although some sample sizes are small, research has shown that in respect to tension headaches massage can:

- reduce depression and/or anxiety^{3, 9}
- decrease perceived pain^{4, 9}
- decrease anger status⁴
- decrease tension⁴
- reduce frequency^{5, 6, 7, 8}
- reduce intensity^{5, 6}
- reduce duration^{5, 6, 8}
- decrease medication usage⁷
- increase range of cervical motion⁹

RATIONALE:

Those patients who seek relief from tension headache pain will benefit from massage therapy given by professional massage therapists working within their scope of practice.

The position statement supports the following AMTA Core Values:

- We are a diverse and nurturing community working with integrity, respect and dignity.
- We embrace consistency in education.
- We endorse professional standards.
- We believe in the benefits of massage.

The position statement supports the 10-30 Year Vivid Descriptions of the AMTA:

- The public will view professional massage as an important contribution toward wellness, and will receive massage on a regular basis.
- People recognize the power of touch to affect the mind, body and spirit.
- AMTA is a trusted resource for information and current research about massage therapy.
- There is significant information in scientific literature on the use, safety and effects of therapeutic massage.
- Massage therapy education and practice is evidence-informed.
- Massage therapy is an essential part of integrative health care.
- AMTA is instrumental in creating a climate conducive for members' professional success.
- The value of massage is recognized internationally and AMTA is viewed as a global resource for the massage therapy profession.
- AMTA is instrumental in building consensus and maintaining an environment of cooperation across the profession of massage therapy.
- AMTA members are viewed as trusted professionals who abide by the highest standard of ethical behavior.

POSITION STATEMENT:

It is the position of the American Massage Therapy Association (AMTA) that massage therapy can be effective in reducing tension headaches.

REFERENCES:

1. National Institutes of Health. (2009). " Headache: Hope Through Research" *NINDS*. NIH Publication No. 09-158. Retrieved on January 21, 2010 from National Institute of Neurological Disorders and Stroke Web site: http://www.ninds.nih.gov/disorders/headache/detail_headache.htm.
2. Werner, R. (2009). *Massage Therapist's Guide to Pathology: Forth Edition*. Philadelphia, PA: Lippincott Williams & Wilkins.
3. Moraska, A., Chandler, C. (2009). Changes in Psychological Parameters in Patients with Tension-type Headache Following Massage Therapy: A Pilot Study. *J Man Manip Ther*, 17(2):86-94.

Investigations into complementary and alternative medicine (CAM) approaches to address stress, depression, and anxiety of those experiencing chronic pain are rare. The objective of this pilot study was to assess the value of a structured massage therapy program, with a focus on myofascial trigger points, on psychological measures associated with tension-type headache. Participants were enrolled in an open-label trial using a baseline control with four 3-week phases: baseline, massage (two 3-week periods) and a follow-up phase. Eighteen subjects with episodic or chronic tension-type headache were enrolled and evaluated at 3-week intervals using the State-Trait Anxiety Inventory, Beck Depression Inventory, and the Perceived Stress Scale. The Daily Stress Inventory was administered over 7-day periods during baseline and the final week of massage. Twice weekly, 45-minute massage therapy sessions commenced following the baseline phase and continued for 6 weeks. A significant improvement in all psychological measures was detected over the timeframe of the study. Post hoc evaluation indicated improvement over baseline for depression and trait anxiety following 6 weeks of massage, but not 3 weeks. A reduction in the number of events deemed stressful as well as their respective impact was detected. This pilot study provides evidence for reduction of affective distress in a chronic pain population, suggesting the need for more rigorously controlled studies using massage therapy to address psychological measures associated with TTH.

4. Toro-Velasco, C., Arroyo-Morales, M., Fernández-de-Las-Peñas, C., Cleland, J.A., Barrero-Hernández, F.J. (2009). Short-term effects of manual therapy on heart rate variability, mood state, and pressure pain sensitivity in patients with chronic tension-type headache: a pilot study. *J Manipulative Physiol Ther*, 32(7):527-35.

OBJECTIVE: The purpose of this study was to investigate the immediate effects of head-neck massage on heart rate variability (HRV), mood states, and pressure pain thresholds (PPTs) in patients with chronic tension-type headache (CTTH).

METHODS: Eleven patients (8 females), between 20 and 68 years old, with CTTH participated in this crossover study. Patients received either the experimental treatment (massage protocol) or a placebo intervention (detuned ultrasound). Holter electrocardiogram recordings (standard deviation of the normal-to-normal interval, square root of mean squared differences of successive NN intervals, index HRV, low-frequency component, and high-frequency component), PPT over both temporalis muscles, and Profile of Mood States questionnaire (tension-anxiety, depression-dejection, anger-hostility, vigor, fatigue, confusion) were obtained preintervention, immediately after intervention, and 24 hours postintervention. Self-reported head pain was also collected preintervention and 24 hours postintervention. Separate analyses of covariance (ANCOVAs) were performed with each dependent variable. The hypothesis of interest was group x time interaction.

RESULTS: The ANCOVA showed a significant group x time interaction for index HRV ($F = 4.5, P = .04$), but not for standard deviation of the normal-to-normal interval ($F = 1.1, P = .3$), square root of mean squared differences of successive NN intervals ($F = 0.9, P = .3$), low-frequency component ($F = 0.03, P = .8$), or high-frequency component ($F = 0.4, P = .5$) domains. Pairwise comparisons found that after the manual therapy intervention, patients showed an increase in the index HRV ($P = .01$) domain, whereas no changes were found after the placebo intervention ($P = .7$). The ANCOVA also found a significant group x time interaction for tension-anxiety ($F = 5.3, P = .03$) and anger-hostility ($F = 4.6, P = .04$) subscales. Pairwise comparisons found that after the manual therapy intervention, patients showed a decrease in tension-anxiety ($P = .002$) and anger-hostility ($P = .04$) subscales, whereas no changes were found after the placebo intervention ($P > .5$ both subscales). No significant changes were found in PPT levels (right $F = 0.3, P = .6$, left $F = 0.4, P = .5$). A significant group x time interaction for pain ($F = 4.8, P = .04$) was identified. No influence of sex was found ($F = 1.5, P = .3$). Pairwise comparisons showed that head pain (numerical pain rating scale) decreased 24 hours after manual therapy ($P < .05$) but not after the placebo intervention ($P = .9$).

CONCLUSIONS: The application of a single session of manual therapy program produces an immediate increase of index HRV and a decrease in tension, anger status, and perceived pain in patients with CTTH.

5. von Stülpnagel, C., Reilich, P., Straube, A., Schäfer, J., Blaschek, A., Lee, S.H., Müller-Felber, W., Henschel, V., Mansmann, U., Heinen, F. (2009). Myofascial trigger points in children with tension-type headache: a new diagnostic and therapeutic option. *J Child Neurol*, 24(4):406-9.

The goal of this pilot study was to evaluate the effect of a trigger point-specific physiotherapy on headache frequency, intensity, and duration in children with episodic or chronic tension-type headache. Patients were recruited from the special headache outpatient clinic. A total of 9 girls (mean age 13.1 years; range, 5-15 years) with the diagnosis of tension-type headache participated in the pilot study from May to September 2006 and received trigger point-specific physiotherapy twice a week by a trained physiotherapist. After an average number of 6.5 therapeutic sessions, the headache frequency had been reduced by 67.7%, intensity by 74.3%, and duration by 77.3%. No side effects were noted during the treatment. These preliminary findings suggest a role for active trigger points in children with tension-type headache. Trigger point-specific physiotherapy seems to be an effective therapy in these children. Further prospective and controlled studies in a larger cohort are warranted.

6. Moraska, A., Chandler, C. (2008). Changes in Clinical Parameters in Patients with Tension-type Headache Following Massage Therapy: A Pilot Study. *J Man Manip Ther*, 16(2):106-12.

Complementary and alternative medicine approaches to treatment for tension-type headache are increasingly popular among patients, but evidence supporting its efficacy is limited. The objective of this study was to assess short term changes on primary and secondary headache pain measures in patients

with tension-type headache (TTH) receiving a structured massage therapy program with a focus on myofascial trigger point therapy. Participants were enrolled in an open label trial using a baseline control with four 3-week phases: baseline, massage (two 3-week phases) and follow-up. Twice weekly, 45-minute massage sessions commenced following the baseline phase. A daily headache diary was maintained throughout the study in which participants recorded headache incidence, intensity, and duration. The Headache Disability Index was administered upon study entry and at 3-week intervals thereafter. 18 subjects were enrolled with 16 completing all headache diary, evaluation, and massage assignments. Study participants reported a median of 7.5 years with TTH. Headache frequency decreased from 4.7+/-0.7 episodes per week during baseline to 3.7+/-0.9 during treatment period 2 ($P < 0.001$); reduction was also noted during the follow-up phase (3.2+/-1.0). Secondary measures of headache also decreased across the study phases with headache intensity decreasing by 30% ($P < 0.01$) and headache duration from 4.0+/-1.3 to 2.8+/-0.5 hours ($P < 0.05$). A corresponding improvement in Headache Disability Index was found with massage ($P < 0.001$). This pilot study provides preliminary evidence for reduction in headache pain and disability with massage therapy that targets myofascial trigger points, suggesting the need for more rigorously controlled studies.

7. 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(5):40-6.

CONTEXT: Although the traditional treatment of headache has been pharmacological, there have been many attempts to treat headaches with other methods with mixed levels of success.

OBJECTIVE: To obtain preliminary data on the efficacy of the Trager approach in the treatment of chronic headache.

DESIGN: Small-scale randomized controlled clinical trial.

SETTING: University-based clinic.

PATIENTS: Thirty-three volunteers with a self-reported history of chronic headache with at least one headache per week for at least 6 months.

INTERVENTIONS: Medication only control group, medication and attention control group, and medication and Trager treatment group.

MAIN OUTCOME MEASURES: Self-reported frequency, duration, and intensity of headache, medication usage and headache quality of life (HQOL) obtained at baseline and after a 6-week treatment period.

RESULTS: Analyses of variance demonstrated significant improvement in HQOL for the Trager and attention control groups, and reduction in medication usage for the Trager group ($P < 0.05$). Within-group analyses revealed that participants randomized to Trager demonstrated a significant decrease in the frequency of headaches ($P = 0.045$), improvement in HQOL ($P = 0.045$), and a 44% decrease in medication usage ($P = 0.03$). Participants randomized to the attention control group demonstrated a significant improvement in HQOL ($P = 0.035$) and a 19% decrease in medication usage ($P = 0.15$). Participants randomized to the no-treatment control group revealed a significant increase in headache duration ($P = 0.025$) and intensity ($P = 0.025$), and a declination in HQOL ($P = 0.035$).

CONCLUSIONS: The Trager approach decreased headache frequency and medication usage. Trager and physician attention improved HQOL. A larger, multi-site study is recommended.

8. Quinn, C., Chandler, C., Moraska, A. (2002). Massage therapy and frequency of chronic tension headaches. *Am J Public Health*, 92(10):1657-61.

OBJECTIVES: The effect of massage therapy on chronic nonmigraine headache was investigated.

METHODS: Chronic tension headache sufferers received structured massage therapy treatment directed toward neck and shoulder muscles. Headache frequency, duration, and intensity were recorded and compared with baseline measures.

RESULTS: Compared with baseline values, headache frequency was significantly reduced within the first week of the massage protocol. The reduction of headache frequency continued for the remainder of the study ($P = .009$). The duration of headaches tended to decrease during the massage treatment period ($P = .058$). Headache intensity was unaffected by massage ($P = .19$).

CONCLUSIONS: The muscle-specific massage therapy technique used in this study has the potential to be a functional, nonpharmacological intervention for reducing the incidence of chronic tension headache.

9. Puustjärvi, K., Airaksinen, O., Pöntinen, P.J. (1990). The effects of massage in patients with chronic tension headache. *Acupunct Electrother Res*, 15(2):159-62.

21 female patients suffering from chronic tension headache received 10 sessions of upper body massage consisting of deep tissue techniques in addition to softer techniques in the beginning. When found, trigger points were carefully and forcefully massaged. The range of cervical movements, surface ENMG on mm. frontalis and trapezius, visual analogue scale (VAS) and Finnish Pain Questionnaire (FPQ), and the incidence of neck pain during a two week period before and after the treatment, and at 3 and 6 months during the follow-up period together with Beck depression inventory were taken for evaluation and follow-up. The range of movement in all directions increased, and FPQ, VAS and the number of days with neck pain decreased significantly. There was a significant change in ENMG on the frontalis muscle whereas changes in trapezius remained insignificant. Beck inventory showed an improvement after the treatment. This study confirmed clinical and physiological effects of massage.