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January 29, 2020

On behalf of the American Massage Therapy Association (AMTA), we are pleased to comment on *Treatments for Acute Pain: A Systematic Review*.

AMTA represents the massage therapy profession, with over 92,000 members across the country. We have worked for over 75 years to advance the massage therapy profession and to foster quality research on the value and efficacy of massage therapy.

In previous submissions to AHRQ, we have focused primarily on the benefits of massage for chronic pain. However, we would like to emphasize the growing body of evidence showing effectiveness, cost-effectiveness, cost savings and risk mitigation for evidence-based therapies, including massage therapy, that exists for acute pain, including post-operative pain and treatment for certain diseases and medical conditions. Evidence also suggests that adequate acute pain treatment that include non-pharmacologic interventions such as massage therapy may mitigate factors that promote the transition to chronic pain

We also note that massage therapy for acute pain has been recognized by The Joint Commission (TJC), in its Pain Assessment and Management Standards for hospitals, which requires that their accredited hospitals and facilities ‘provide’ non-pharmacologic therapies for pain. <https://www.jointcommission.org/standards/r3-report/r3-report-issue-11-pain-assessment-and-management-standards-for-hospitals/>.

TJC also published in 2018 a “Quick Safety” Advisory on non-pharmacologic/non-opioid therapies for pain management that specifically mentions massage therapy. <https://www.jointcommission.org/resources/news-and-multimedia/news/2018/08/new-joint-commission-advisory-on-non-pharmacologic-and-non-opioid-solutions-for-pain-management/>

We understand that this review is intended to assess the comparative effectiveness of treatments and harms of opioid and non-opioid treatments for surgical and nonsurgical pain related to eight acute pain conditions (back pain, neck pain, other musculoskeletal pain, neuropathic pain, postoperative pain after discharge, dental pain, kidney stones, and

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sickle cell crisis). Below are some important studies we would like to bring to the attention of AHRQ:

- I. **The Impact of Massage Therapy on Function in Pain Populations—A Systematic Review and Meta-Analysis of Randomized Controlled Trials: Part I, Patients Experiencing Pain in the General Population.** Crawford, C., Boyd, C., Paat, C. F., Price, A., Xenakis, L., Yang, E., ... & Evidence for Massage Therapy (EMT) Working Group Buckenmaier Chester III MD, COL (ret) Buckenmaier Pamela RN, LMT Cambron Jerrilyn DC, PhD Deery Christopher LMT Schwartz Jan MA, BCTMB Werner Ruth BCTMB Whitridge Pete BA, LMT. (2016). *Pain Medicine*, 17(7), 1353-1375.

Abstract

Purpose

Pain is multi-dimensional and may be better addressed through a holistic, biopsychosocial approach. Massage therapy is commonly practiced among patients seeking pain management; however, its efficacy is unclear. This systematic review and meta-analysis is the first to rigorously assess the quality of massage therapy research and evidence for its efficacy in treating pain, function-related and health-related quality of life outcomes across all pain populations.

Methods

Key databases were searched from inception through February 2014. Eligible randomized controlled trials were assessed for methodological quality using SIGN 50 Checklist. Meta-analysis was applied at the outcome level. A diverse steering committee interpreted the results to develop recommendations.

Results

Sixty high quality and seven low quality studies were included in the review. Results demonstrate massage therapy effectively treats pain compared to sham [standardized mean difference (SMD) = -0.44], no treatment (SMD = -1.14), and active (SMD = -0.26) comparators. Compared to active comparators, massage therapy was also beneficial for treating anxiety (SMD = -0.57) and health-related quality of life (SMD = 0.14).

Conclusion

Based on the evidence, massage therapy, compared to no treatment, should be strongly recommended as a pain management option. Massage therapy is weakly recommended for reducing pain, compared to other sham or active comparators, and improving mood and health-related quality of life, compared to other active comparators. Massage therapy

safety, research challenges, how to address identified research gaps, and necessary next steps for implementing massage therapy as a viable pain management option are discussed.

II. The Effect of Massage on Acute Postoperative Pain in Critically and Acutely Ill Adults Post-Thoracic Surgery: Systematic Review and Meta-analysis of Randomized Controlled Trials. *Heart Lung*. 2017 Sep - Oct;46(5):339-346,. doi: 10.1016/j.hrtlng.2017.05.005. Epub 2017 Jun 12.

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Abstract

Critical care practice guidelines identify a lack of clear evidence on the effectiveness of massage for pain control. To assess the effect of massage on acute pain in critically and

acutely ill adults post-thoracic surgery. Medline, Embase, CINAHL, PsychInfo, Web of Science, Scopus and Cochrane Library databases were searched. Eligible studies were randomized controlled trials (RCTs) evaluating the effect of massage compared to attention control/sham massage or standard care alone on acute pain intensity post-thoracic surgery. Twelve RCTs were included. Of these, nine evaluated massage in addition to standard analgesia, including 2 that compared massage to attention control/sham massage in the intensive care unit (ICU), 6 that compared massage to standard analgesia alone early post-ICU discharge, and 1 that compared massage to both attention control and standard care in the ICU. Patients receiving massage with analgesia reported less pain (0-10 scale) compared to attention control/sham massage (3 RCTs; N = 462; mean difference -0.80, 95% confidence interval [CI] -1.25 to -0.35; $p < 0.001$; $I^2 = 13\%$) and standard care (7 RCTs; N = 1087; mean difference -0.85, 95% CI -1.28 to -0.42; $p < 0.001$; $I^2 = 70\%$). Massage, in addition to pharmacological analgesia, reduces acute post-cardiac surgery pain intensity.

III. The Impact of Massage Therapy on Function in Pain Populations—A Systematic Review and Meta-Analysis of Randomized Controlled Trials:
Courtney Boyd, MA, Cindy Crawford, BA, Charmagne F. Paat, BS, Ashley Price, BS, Lea Xenakis, MPA, Weimin Zhang, PhD, and the Evidence for Massage Therapy (EMT) Working Group; Samuelli Institute, Alexandria, Virginia, USA

Abstract

Objective. Pain is multi-dimensional and may be better addressed through a holistic, biopsychosocial approach. Massage therapy is commonly practiced among patients seeking pain management; however, its efficacy is unclear. This systematic review and meta-analysis is the first to rigorously assess the quality of the evidence for massage therapy's efficacy in treating pain, function-related, and health-related quality of life outcomes in surgical pain populations.

Methods. Key databases were searched from inception through February 2014. Eligible randomized controlled trials were assessed for methodological quality using SIGN 50 Checklist. Meta-analysis was applied at the outcome level. A professionally diverse steering committee interpreted the results to develop recommendations.

Results. Twelve high quality and four low quality studies were included in the review. Results indicate massage therapy is effective for treating pain [standardized mean difference (SMD) 0.79] and anxiety (SMD 0.57) compared to active comparators.

Conclusion. Based on the available evidence, weak recommendations are suggested for massage therapy, compared to active comparators for reducing pain intensity/severity and anxiety in patients undergoing surgical procedures. This review also discusses massage therapy safety, challenges within this research field, how to address identified research gaps, and next steps for future research.

Massage therapy appears to be efficacious for reducing pain and anxiety in patients who are either about to undergo or are recovering from surgical procedures. This is the first reported attempt to pool the current literature base surrounding massage therapy for patient-reported functional outcomes in surgical patients experiencing pain. There is a wide degree of heterogeneity among these studies that needs to be addressed in order to adequately influence policy change and make definitive recommendations regarding massage therapy. This review identified several research gaps:

- 1) Reporting requirements need to be more stringent and standardly enforced to ensure bias free results that can be translatable for future work and implementation.
- 2) Guidelines (e.g., proposed STRICT-M Checklist) specific to massage therapy research should also be adapted to ensure intervention components around dosing, timing, massage pressure, practitioner qualifications, and credentialing are appropriate for surgical populations in hospital settings.
- 3) Uniform, valid, and reliable measures should be consistently utilized in studies to not only address the whole patient perspective, but also guide future work in this area.
- 4) Once these gaps are addressed, comparative effectiveness research can be proposed, taking into account cost benefit analyses, in order to determine whether massage therapy is an appropriate intervention to offer patients who are either about to undergo or are recovering from surgical procedures in hospital settings.

The promising results yielded from this systematic review and meta-analysis warrant the investment of both time and resources into addressing recommendations offered in this report to guide future research and ultimately offer massage therapy as a beneficial tool for surgical patients experiencing pain.

IV. Massage Therapy For Cardiac Surgery Patients—A Randomized Trial.

Braun, L. A., Stanguts, C., Casanelia, L., Spitzer, O., Paul, E., Vardaxis, N. J., & Rosenfeldt, F. (2012). *The Journal of Thoracic and Cardiovascular Surgery*, 144(6), 1453-1459.

Objectives

To determine whether massage significantly reduces anxiety, pain, and muscular tension and enhances relaxation compared with an equivalent period of rest time after cardiac surgery. The feasibility of delivering the treatment, effects on heart rate, blood pressure, and respiratory rate, and patient satisfaction were also assessed.

Methods

Elective cardiac surgery patients were randomized to receive massage or rest time at 2 points after surgery. Visual analog scales were used to measure pain, anxiety, relaxation, muscular tension, and satisfaction. Heart rate, respiratory rate, and blood pressure were measured before and after treatment. Focus groups and feedback were used to collect qualitative data about clinical significance and feasibility.

Results

A total of 152 patients (99% response rate) participated. Massage therapy produced a significantly greater reduction in pain ($P = .001$), anxiety ($P < .0001$), and muscular tension ($P = .002$) and increases in relaxation ($P < .0001$) and satisfaction ($P = .016$) compared to the rest time. No significant differences were seen for heart rate, respiratory rate, and blood pressure. Pain was significantly reduced after massage on day 3 or 4 ($P < .0001$) and day 5 or 6 ($P = .003$). The control group experienced no significant change at either time. Anxiety ($P < .0001$) and muscular tension ($P < .0001$) were also significantly reduced in the massage group at both points. Relaxation was significantly improved on day 3 or 4 for both groups (massage, $P < .0001$; rest time, $P = .006$), but only massage was effective on day 5 or 6 ($P < .0001$). Nurses and physiotherapists observed patient improvements and helped facilitate delivery of the treatment by the massage therapists on the ward.

Conclusions

Massage therapy significantly reduced the pain, anxiety, and muscular tension and improves relaxation and satisfaction after cardiac surgery. Link to published abstract with patient characteristics, interventions and measurements follow:

<https://www.sciencedirect.com/science/article/pii/S0022522312008689#!>

**V. Noninvasive Treatments for Acute, Subacute, and Chronic Low Back Pain:
A Clinical Practice Guideline From the American College of Physicians.**

Qaseem A, Wilt TJ, McLean RM, Forciea MA¹ Clinical Guidelines Committee of the American College of Physicians.

Abstract

Description

The American College of Physicians (ACP) developed this guideline to present the evidence and provide clinical recommendations on noninvasive treatment of low back pain.

Methods

Using the ACP grading system, the committee based these recommendations on a systematic review of randomized, controlled trials and systematic reviews published through April 2015 on noninvasive pharmacologic and nonpharmacologic treatments for low back pain. Updated searches were performed through November 2016. Clinical outcomes evaluated included reduction or elimination of low back pain, improvement in back-specific and overall function, improvement in health-related quality of life, reduction in work disability and return to work, global improvement, number of back pain episodes or time between episodes, patient satisfaction, and adverse effects.

Target Audience and Patient Population

The target audience for this guideline includes all clinicians, and the target patient population includes adults with acute, subacute, or chronic low back pain.

(Acute) Recommendation

Given that most patients with acute or subacute low back pain improve over time regardless of treatment, clinicians and patients should select nonpharmacologic treatment with superficial heat (moderate-quality evidence), **massage**, acupuncture, or spinal manipulation (low-quality evidence). If pharmacologic treatment is desired, clinicians and patients should select nonsteroidal anti-inflammatory drugs or skeletal muscle relaxants (moderate-quality evidence). (Grade: strong recommendation).

On behalf of AMTA, we appreciate the opportunity to provide this information and are happy to provide any additional details that may be helpful.

Sincerely,

A handwritten signature in black ink that reads "James C. Specker". The signature is fluid and cursive, with a large initial "J" and "S".

James Specker
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