Evidence Map of Massage Therapy for Painful Conditions: Update from 2018–2023

October 2023

U.S. Department of Veterans Affairs
Veterans Health Administration
Health Services Research & Development Service

Recommended citation: Mak S, Allen J, Begashaw M, Miake-Lye I, Beroes-Severin J, Lawson E, Shekelle P. Evidence Map of Massage Therapy for Painful Conditions: Update from 2018–2023. Washington, DC: Evidence Synthesis Program, Health Services Research and Development Service, Office of Research and Development, Department of Veterans Affairs. VA ESP Project #05-226; 2023.

AUTHORS

Author roles, affiliations, and contributions to the present report (using the CRediT taxonomy) are summarized in the table below.

Author	Role and Affiliation	Report Contribution
Paul Shekelle, MD, PhD, MPH	Co-Director, VA Greater Los Angeles Evidence Synthesis Program (ESP) Center Los Angeles, CA	Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing
Jennifer Allen, ANP-BC APHN-C	Nurse Practitioner at VA Greater Los Angeles Healthcare System Whole Health Program Manager Los Angeles, CA	Conceptualization, Formal analysis, Investigation, Methodology, Validation, Visualization, Writing – original draft, Writing – review & editing
Selene Mak, PhD, MPH	Program Manager, VA Greater Los Angeles ESP Center Los Angeles, CA	Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Project administration, Resources, Software, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing
Meron Begashaw, MPH	Project Coordinator, VA Greater Los Angeles ESP Center Los Angeles, CA	Data curation, Project administration, Software, Validation, Visualization, Writing – original draft, Writing – review & editing
Isomi Miake-Lye, PhD, MPH	Co-Director, VA Greater Los Angeles ESP Center Los Angeles, CA	Conceptualization, Funding acquisition, Methodology, Project administration, Resources, Software, Supervision, Visualization
Jessica Severin, BA	Administrative Coordinator, VA Greater Los Angeles ESP Center Los Angeles, CA	Data curation, Project administration
Emily Lawson, MSLIS, AHIP	Research and Consulting Librarian, RAND Corporation Santa Monica, CA	Data curation

This report was prepared by the Evidence Synthesis Program Center located at the **VA Greater Los Angeles Healthcare System,** directed by Paul Shekelle, MD, PhD and Isomi Miake-Lye, PhD and funded by the Department of Veterans Affairs, Veterans Health Administration, Health Services Research and Development.

PREFACE

The VA Evidence Synthesis Program (ESP) was established in 2007 to provide timely and accurate syntheses of targeted health care topics of importance to clinicians, managers, and policymakers as they work to improve the health and health care of Veterans. These reports help:

- Develop clinical policies informed by evidence;
- Implement effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures; and
- Set the direction for future research to address gaps in clinical knowledge.

The program comprises four ESP Centers across the US and a Coordinating Center located in Portland, Oregon. Center Directors are VA clinicians and recognized leaders in the field of evidence synthesis with close ties to the AHRQ Evidence-based Practice Center Program. The Coordinating Center was created to manage program operations, ensure methodological consistency and quality of products, interface with stakeholders, and address urgent evidence needs. To ensure responsiveness to the needs of decision-makers, the program is governed by a Steering Committee composed of health system leadership and researchers. The program solicits nominations for review topics several times a year via the program website.

The present report was developed in response to a request from the Integrative Health Coordinating Center under the Office of Patient Centered Care & Cultural Transformation. The scope was further developed with input from Operational Partners (below), the ESP Coordinating Center, and the review team. The ESP consulted several technical and content experts in designing the research questions and review methodology. In seeking broad expertise and perspectives, divergent and conflicting opinions are common and perceived as healthy scientific discourse that results in a thoughtful, relevant systematic review. Ultimately, however, research questions, design, methodologic approaches, and/or conclusions of the review may not necessarily represent the views of individual technical and content experts.

ACKNOWLEDGMENTS

The authors are grateful to the following individuals for their contributions to this project:

Operational Partners

Operational partners are system-level stakeholders who help ensure relevance of the review topic to the VA, contribute to the development of and approve final project scope and timeframe for completion, provide feedback on the draft report, and provide consultation on strategies for dissemination of the report to the field and relevant groups.

Juli Olson, DC, DACM
National Lead Clinical Champion
Integrative Health Coordinating Center
VHA Office of Patient Centered Care & Cultural Transformation

Sharon M. Weinstein, MD, MT, FAAHPM
VA National Lead, Massage Therapy
Integrative Health Coordinating Center
VHA Office of Patient Centered Care & Cultural Transformation

Alison Whitehead, MPH, C-IAYT, E-RYT200
National Program Lead
Integrative Health Coordinating Center
VHA Office of Patient Centered Care & Cultural Transformation

Peer Reviewers

The Coordinating Center sought input from external peer reviewers to review the draft report and provide feedback on the objectives, scope, methods used, perception of bias, and omitted evidence (see Appendix D for disposition of comments). Peer reviewers must disclose any relevant financial or non-financial conflicts of interest. Because of their unique clinical or content expertise, individuals with potential conflicts may be retained. The Coordinating Center works to balance, manage, or mitigate any potential nonfinancial conflicts of interest identified.

ABBREVIATIONS TABLE

Abbreviation	
AHRQ	Agency for Healthcare Research & Quality
CIH	Complementary and integrative health
EPC	Evidence-based Practice Center
ESP	Evidence Synthesis Program
GRADE	Grading of Recommendations, Assessment, Development and Evaluations
MFR	Myofascial release
VA	Department of Veterans Affairs
VERDICT	Veterans Response to Dosage in Chiropractic Therapy
VHA	Veterans Health Administration

EXECUTIVE SUMMARY

Key Findings

- We included 15 reviews of massage therapy describing health conditions with pain as an outcome in the evidence map. These conditions include cancer-related pain, back pain (including chronic back pain, chronic low back pain, and low back pain), mechanical neck pain, myofascial pain, palliative care needs, post-breast cancer surgery, post-caesarean pain, post-partum pain, and post-operative pain.
- We found conclusions of potential benefit for massage therapy with moderate certainty of evidence in 6 reviews published since July 2018, which suggests that conclusions of benefit of massage therapy have a stronger evidence base now than in 2018. These conditions include back pain (including chronic low back pain and chronic back pain), fibromyalgia, myofascial pain, and breast-cancer-related pain.
- Almost all conclusions about benefit for massage therapy for pain were drawn from a small number of primary studies (*ie*, 2 to 5).

INTRODUCTION

Massage therapy is a popular and widely accepted complementary and integrative health (CIH) modality for individuals seeking relief from pain. Despite its popularity and long history in practice, evidence of beneficial effect of massage therapy remains limited.

METHODS

Data Sources and Searches

Search strategies were based on those used for an earlier ESP evidence map of massage therapy and subsequent journal article, which included literature published through June 2018. Five databases were searched for relevant records published from July 2018 to April 2023: PubMed, Allied and Complementary Medicine Database (AMED), Cumulated Index to Nursing and Allied Health Literature (CINAHL), Cochrane Database of Systematic Reviews (CDSR), and Web of Science.

Study Selection

Eligible publications were systematic reviews of studies that examined the efficacy or effectiveness of massage therapy for pain in adults. In general, any therapist-delivered modality described as "massage therapy" by review authors was considered eligible; these included acupressure, Tuina, Thai, Swedish, myofascial release, *etc*. Sports massage therapy, osteopathy, dry cupping/dry needling, and internal massage therapy (*eg*, for pelvic floor pain) were ineligible, however, as were self-administered massage therapy techniques like foam rolling. Studies were required to compare massage therapy to a sham/placebo massage, usual care, or other active therapies (exercise, physical therapy, *etc*). Further details about the study selection process are described in the main report.

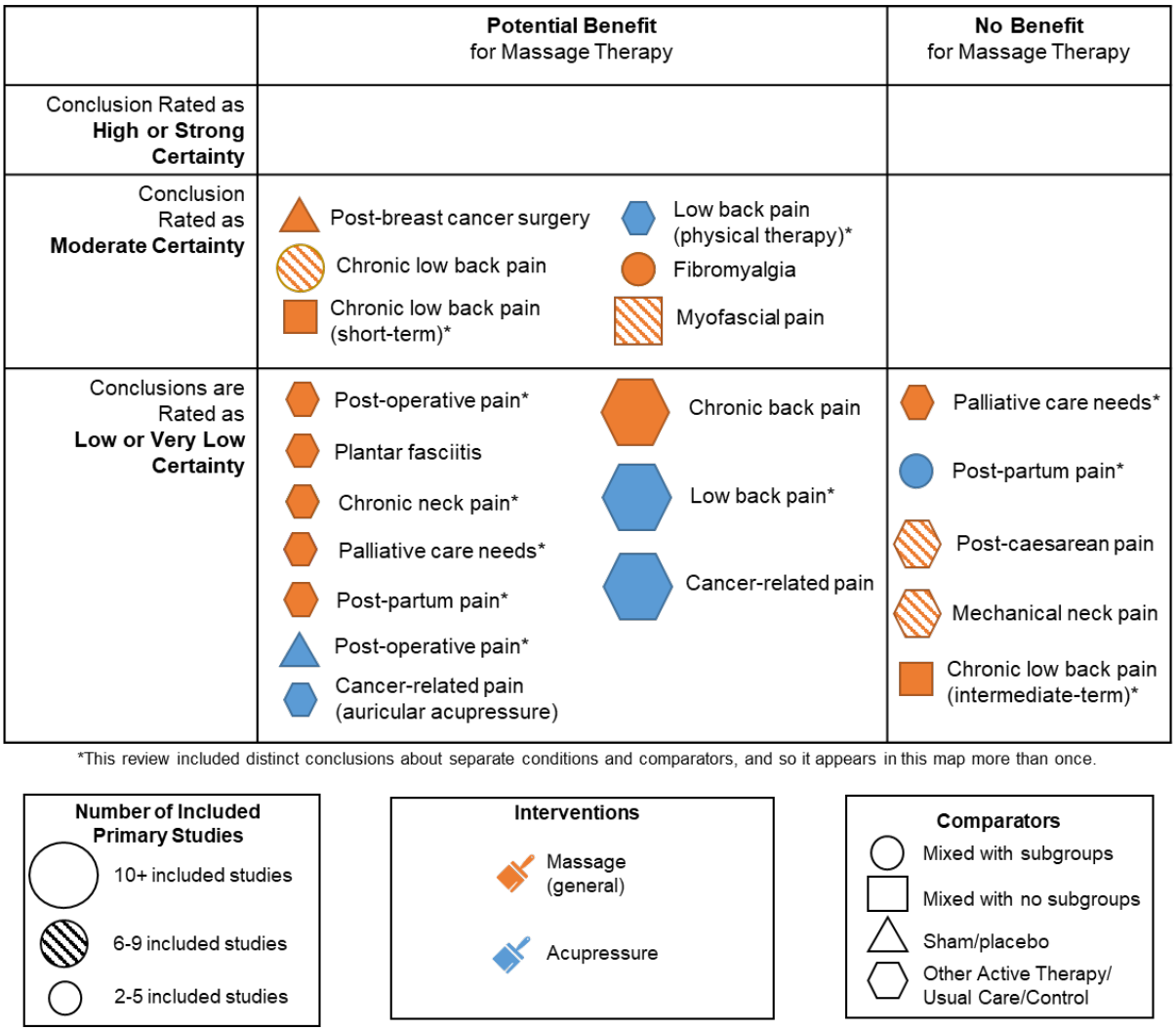
Data Abstraction and Presentation

Each included systematic review had data abstracted by 1 reviewer and verified by a second reviewer. Abstracted data included but were not limited to: number of studies included in the review that had massage therapy as the intervention, condition, type of massage therapy, comparators, certainty of evidence rating, and certainty of evidence conclusion(s) relevant to massage therapy as treatment for pain. Our evidence mapping process resulted in a visual depiction of the evidence for massage therapy, as well as an accompanying narrative with an ancillary figure and table.

RESULTS

We identified 1,164 potentially relevant citations. A total of 38 publications were retained and reviewed at full text. We included 15 publications in this map (ES Figure). In this map, bubble color denotes intervention type, shape denotes type of comparator, and size of shape indicates the number of studies included in the review.

ES Figure. Evidence Map



Three high-level observations can be made from the evidence mapping process:

1) Our update identified 6 reviews describing conditions with moderate certainty of evidence of potential benefit from reviews published since July 2018. There were only reviews with conclusions of low and very low certainty of evidence in the last review. This suggests that there is a stronger evidence base for the potential benefit of massage therapy for pain in some conditions since the last review.
2) Only 20% of reviews (3 of 15) included more than 10 primary studies. This means a majority of the conclusions about potential benefit for massage therapy for pain were drawn from a small number of primary studies.
3) Five of 6 reviews with moderate certainty of evidence included analyses comparing massage therapy to more than 1 comparison group. One review compared myofascial release to sham only. Except for the review by Li et al, the other reviews all included sham or placebo as a comparison group. Since manual therapies like massage therapy require some form of touching, without further details about what "sham" or "placebo" treatment entailed in these primary studies, the effect of massage therapy detected from only sham/placebo studies should be interpreted with caution and may not be as informative or useful compared to an effect detected from active therapies studies.

Evidence about adverse events was collected by 60% of the included reviews and no serious adverse events were reported. While 9 of 15 reviews mentioned adverse events, only 2 reviews included certainty of evidence conclusions for adverse events.

DISCUSSION

Key Findings

Our update search identified 15 new reviews since 2018, and from these, 6 reviews described conditions that had moderate certainty of evidence for beneficial effect of massage therapy for pain. There were a variety of massage therapy techniques included in the primary studies of included reviews, but inconsistent reporting of details about the interventions (*eg*, frequency, duration, follow-up) made it difficult to provide further synthesis of the data regarding the delivery of massage therapy.

The moderate certainty of evidence conclusions identified in the current review of massage therapy's potential benefit for chronic low back pain, fibromyalgia, low back pain, myofascial pain, and breast-cancer-related pain represent a step in the right direction toward establishing a stronger evidence base for effect of massage therapy for pain, but more work in producing high-quality RCTs needs to be done to advance the field. It is only when systematic reviews and meta-analyses are conducted with high-quality primary studies that the effects or lack of effects of massage therapy for pain will reach higher certainties of evidence. For any conclusion of potential benefit, a high certainty of evidence rating means "we are very confident that the true effect lies close to that of the estimate of the effect."

Future Research

For painful conditions of priority to the VA that currently do not have at least moderate-certainty evidence supporting use of massage therapy, new studies that address limitations of existing

research are needed. The field of massage therapy would be best advanced by educating the wider research community with clearer definitions of "massage therapy" and whether it is appropriate to include multiple modalities in the same systematic review.

Conclusions

There is a paucity of systematic reviews of massage therapy for pain. Although the number of conclusions about the effectiveness of massage therapy that were judged to have at least moderate certainty of evidence is greater now than in 2018, it is still small relative to the need. More high-quality randomized controlled trials are needed to provide a stronger evidence base to assess the effect of massage therapy for pain.