

# Manual Therapy Modalities and Depression: A Systematic Review

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# Disclosures

- Paulyna Schulz MS, OMSV – No Disclosures
- Teodor Huzij DO – No Disclosures

# Learning Objectives

- Discuss the findings of the systematic review of literature on manual therapy modalities and their impact on depression.
- Evaluate the effectiveness of different manual therapy modalities as complementary treatments for depression and mood disorders.
- Compare and contrast various manual therapy modalities in terms of their benefits and limitations for managing depression and related mood disorders.

# Purpose of Systematic Review

- Additional research following previous publication<sup>1</sup>
  - A systematic review of manual therapy modalities and anxiety
- Somatic symptoms often accompany and worsen depression<sup>2</sup>
  - Fatigue
  - Chronic pain (headaches, back pain, neck pain)
  - GI symptoms
- WHO multicenter international study (n = 1,146) found 2/3 of patients exhibited depression primarily through somatic symptoms<sup>3</sup>

# Postural Changes and Somatic Dysfunctions<sup>4</sup>

- Ribs and sternum
- Postural Changes
  - Slouched forward → exhaled rib dysfunctions and shallowed breathing
  - Increased kyphosis
- Diaphragm
- OA, AA, C2

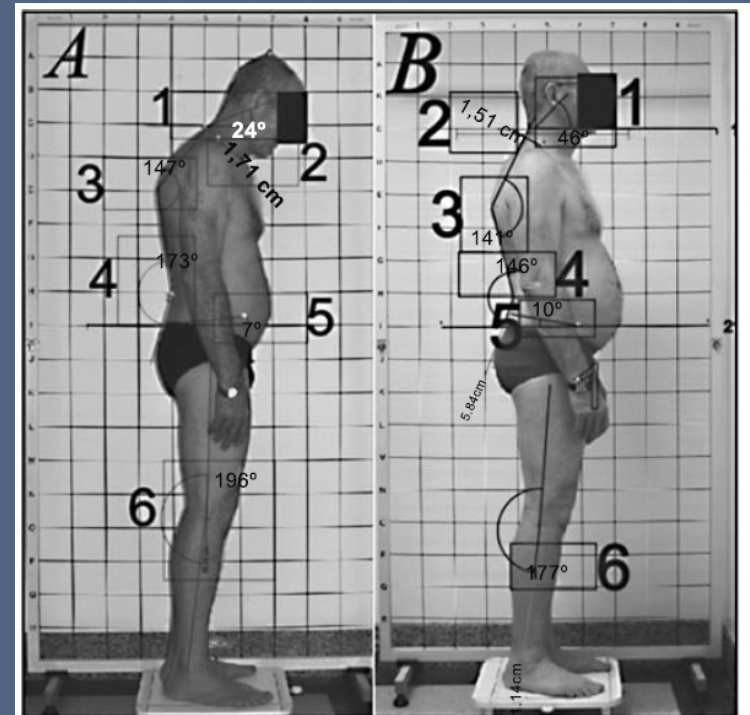


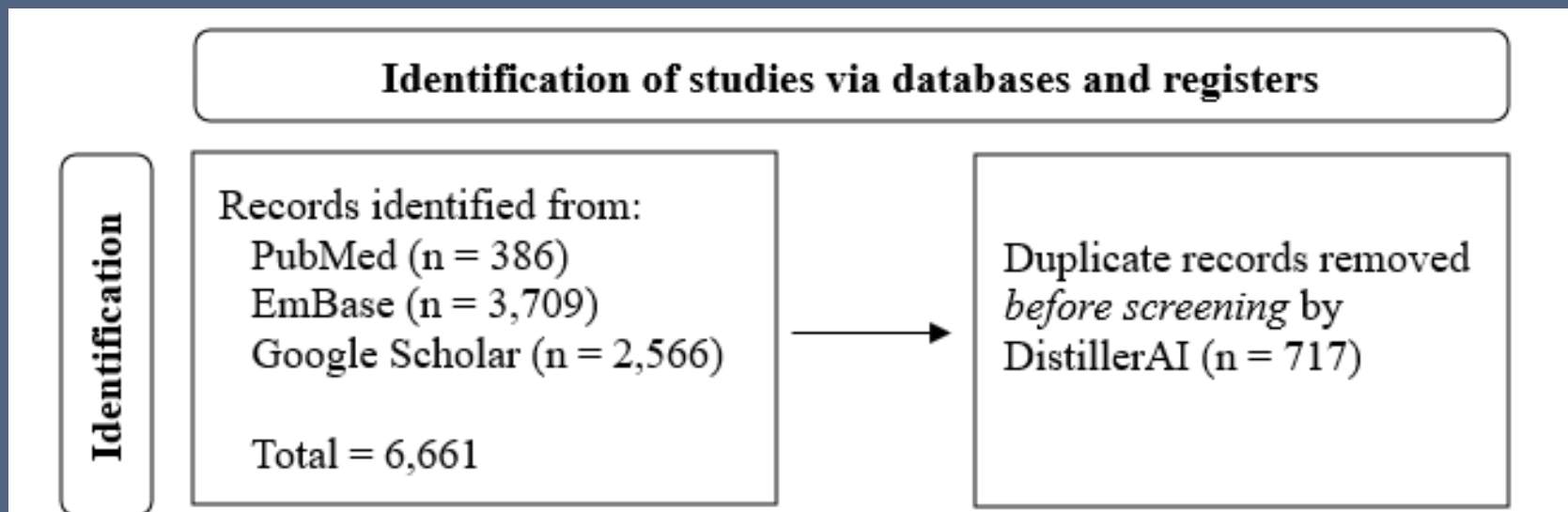
Figure 1 - Postural variables in an individual with MDD during an episode (A) and during remission (B). 1. Head position (°); 2. Shoulder level (cm); 3. Thoracic kyphosis (°); 4. Lumbar lordosis (°); 5. Pelvic inclination (°); 6. Knee position (°).

# Consideration of Manual Therapy

- Somatic complaints, somatic dysfunctions and the osteopathic philosophy warrant consideration of the use of manual therapy as complementary treatment for depression
- **Manual therapy** - any modality utilizing hands-on therapy physically applied to an individual's body

# Methods

- Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines<sup>5</sup>
- Literature search conducted January – April 2025



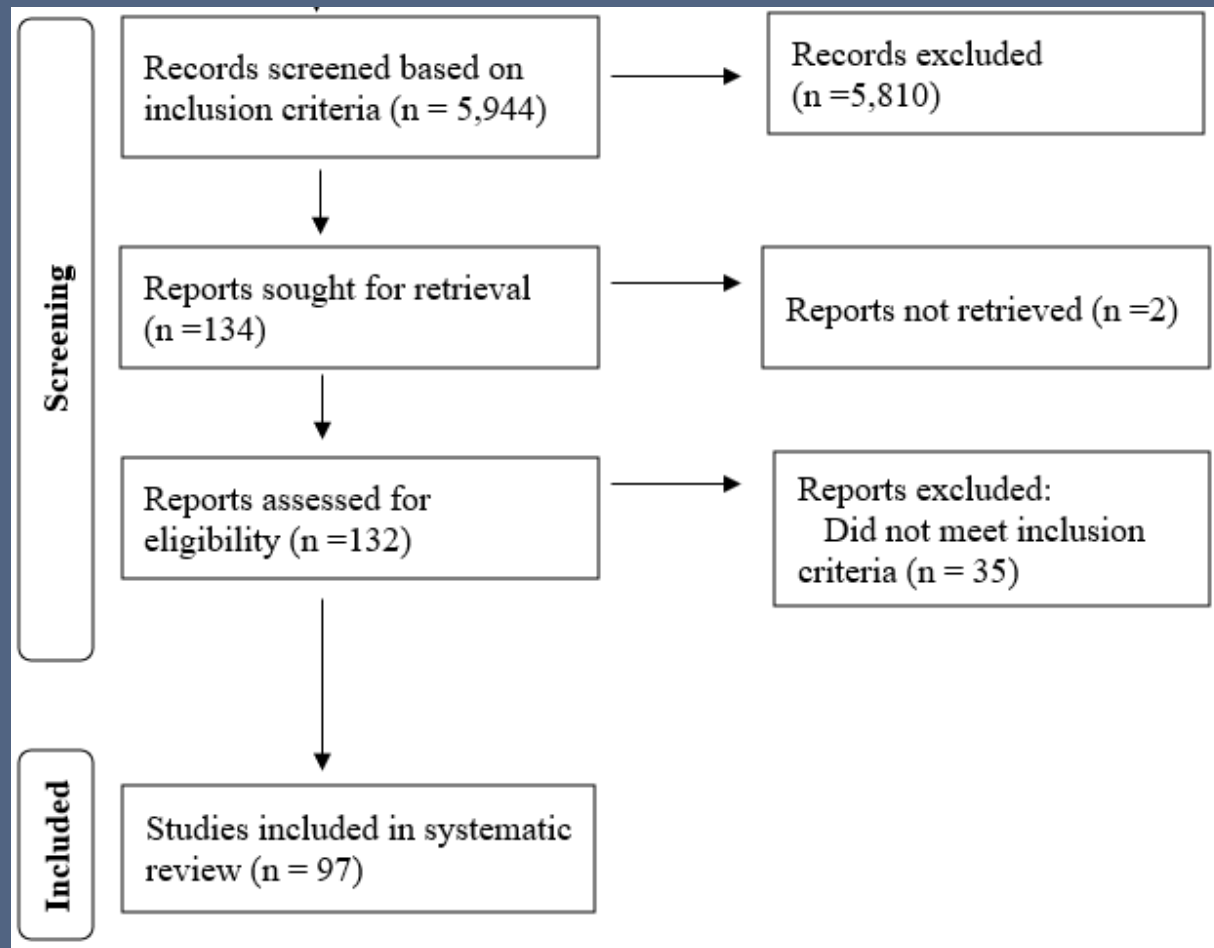
# Inclusion and Exclusion Criteria

## Inclusion Criteria

- Written in English
- Peer-reviewed
- Documented mood disorder-related symptoms (e.g., depressive symptoms, MDD, bipolar disorder) included as a study variable and objective
- Utilized a validated depression measure both before and after intervention
- Manual therapy modality delivered exclusively by a qualified professional

## Exclusion Criteria

- Invalid author conclusions
- Lack of manual therapy modality intervention
- Manual therapy modalities using accessory tools
- Unspecified training of the individual(s) delivering manual therapy
- Studies excluding participants with psychiatric illness diagnoses
- Meta-analyses and systematic reviews (original articles were obtained instead)



# Article Evaluation<sup>6</sup>

- Documented data:
  - Type of manual therapy
  - Training of individual who delivered intervention
  - Mood disorder diagnosis
  - Patient population
  - Depression measure
  - Intervention outcome
  - LOE by each author

<b>Levels of evidence (LOE)</b>	
LOE 1	High-quality randomized controlled trial <ul style="list-style-type: none"> <li>- Concealed allocation</li> <li>- Blinding if possible</li> <li>- Intention-to-treat analysis</li> <li>- Adequate size</li> <li>- Adequate follow-up (&gt;80%)</li> </ul>
LOE 2	Low-quality randomized controlled trial <ul style="list-style-type: none"> <li>- No concealed allocation</li> <li>- No blinding if possible</li> <li>- No intention-to-treat analysis</li> <li>- No adequate size</li> <li>- No adequate follow-up (&gt;80%)</li> </ul>
LOE 3	Study based on opinion, bench research, consensus guideline, usual practice, clinical experience, or a case series
<b>Strength of Recommendation (SOR)</b>	
SOR A	Based on consistent findings from at least two high-quality randomized controlled trials
SOR B	Based on inconsistent findings from high-quality or findings only from low-quality randomized controlled trials
SOR C	Study based on opinion, bench research, consensus guideline, usual practice, clinical experience, or a case series

# Results

<b>Depression outcomes and LOE by modality</b>				
<b>Modality</b>	<b>Depression Reduction</b>	<b>LOE 1</b>	<b>LOE 2</b>	<b>LOE 3</b>
<b>Acupressure</b>	6/6 (100%)		4/6	2/6
<b>Chiropractic Manipulation</b>	5/6 (83.3%)	1/6	4/6	1/6
<b>Craniosacral Therapy</b>	3/3 (100%)		3/3	
<b>Energetic and Light Touch Therapies</b>	8/9 (88.9%)	1/9	7/9	1/9
<b>Manual Therapy</b>	9/14 (64%)	2/14	12/14	
<b>OMT</b>	5/10 (50%)		9/10	1/10
<b>Foot Reflexology</b>	2/3 (66.7%)	1/3	2/3	
<b>Massage Therapy</b>	32/45 (71.1%)	1/45	43/45	1/45
<b>Other Soft Tissue Therapies</b>	2/5 (40%)		5/5	

**LOE, level of evidence; OMT, osteopathic manipulative treatment**

# Acupressure

- Reduction in depressive symptoms: 6/6 (100%)<sup>7-12</sup>
  - LOE 2: 4/6 and LOE 3: 2/6
- One study evaluated effectiveness of ear acupressure vs massage therapy among dementia patients with depression<sup>10</sup>
  - >7 on Cornell Scale for Depression in Dementia
  - Ear acupressure > massage therapy at 1 month follow-up but not at 2-month follow-up
- Strength: Safe, minimally invasive, and effective intervention for elderly and ill population; consistent reduction of symptoms
- Limitation: variable provider training, only 1 study evaluating psychiatric population limits applicability

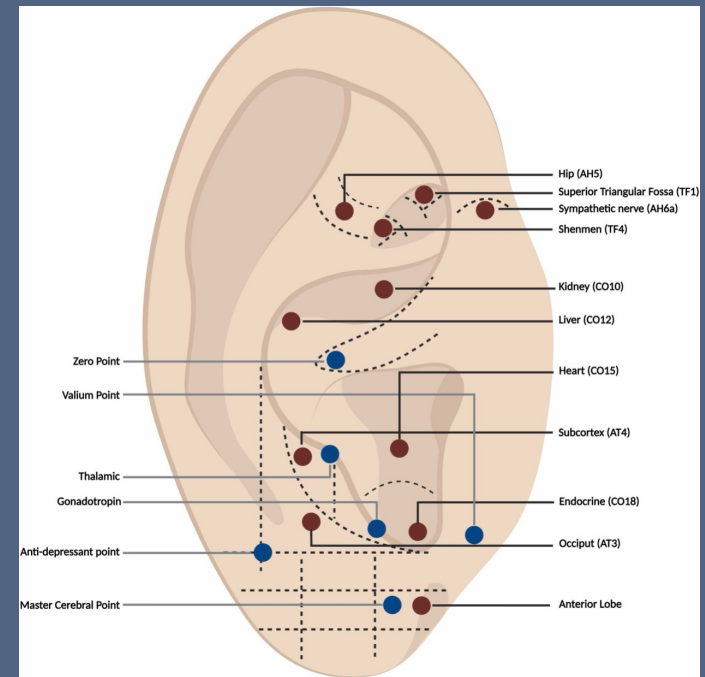


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# Chiropractic Manipulation

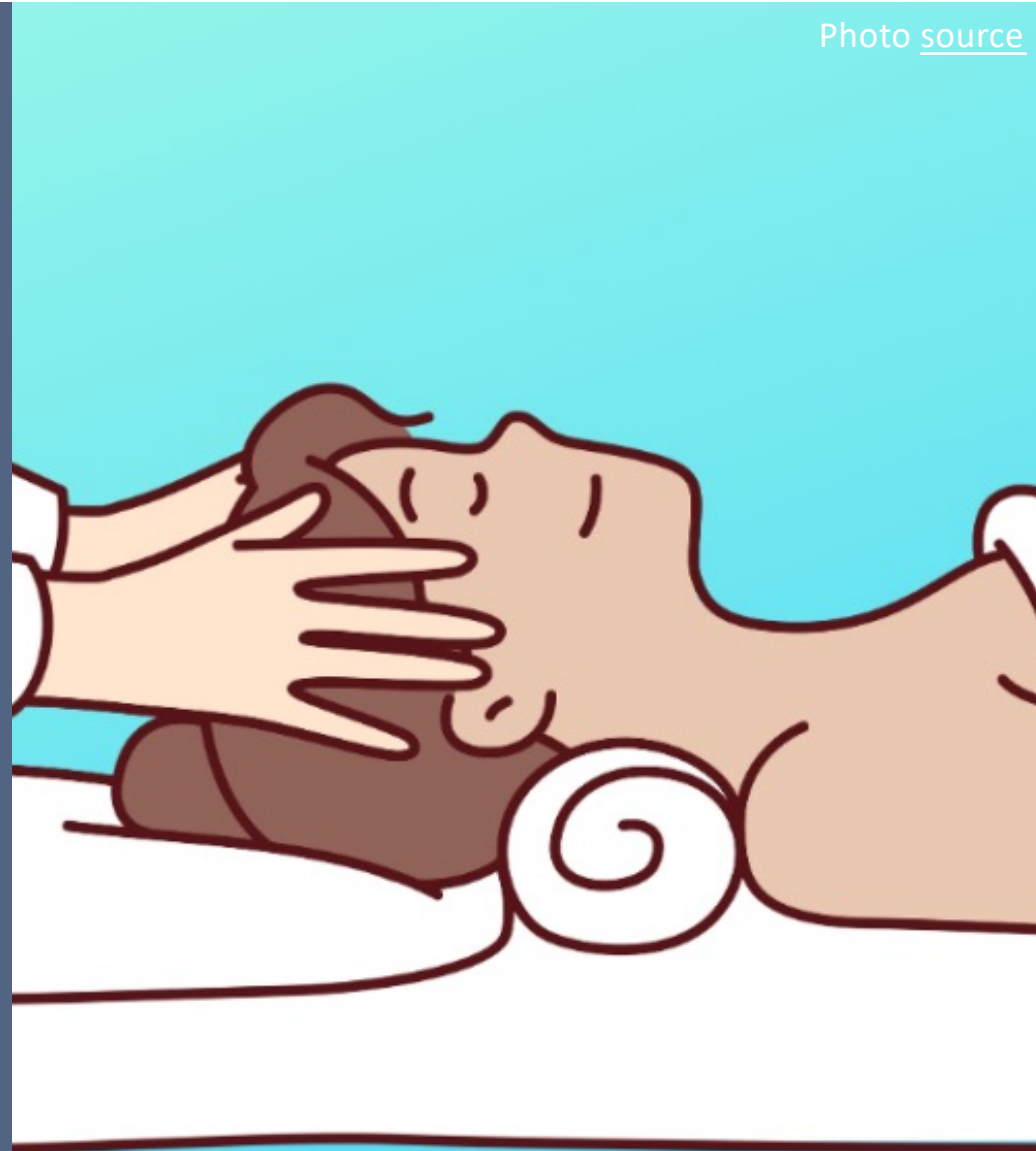
- Reduction in depressive symptoms: 5/6 (83.3%)
- 1 study used bone setting<sup>13</sup>
  - Performed by folk healers
  - LOE 2
- 5 studies with chiropractic manipulation<sup>14-18</sup>
  - LOE 1: 1/5; LOE 2: 3/5 and LOE 3: 1/5
- LOE 1 study: randomized placebo-controlled dual-blinded mixed experimental trial<sup>15</sup>
  - Spinal manipulative therapy (SMT) for 98 adults with chronic primary low back pain
  - 4 weeks
  - Both SMT and placebo group showed reduction in depression symptoms
    - No statistical difference in reduction when comparing SMT group vs placebo vs control
- Strength: 1 study with an LOE of 1; 5/6 showed reduction in depression symptoms
- Limitation: few studies, no psychiatric population limits applicability

Photo [source](#)



# Craniosacral Therapy

- Reduction in depressive symptoms: 3/3 (100%)<sup>19-21</sup>
  - LOE 2: 3/3
- No studies including patients diagnosed with depression
- Strength: consistent results across studies, similar provider training
- Limitation: very few studies gathered, no psychiatric population limits applicability



# Energetic and Light Touch Therapies

Photo source



Strength: 2 studies including patients with depression;  
gentle modalities,

Limitation: inconsistent results across modalities

- Includes bio-energetic synchronization technique (BEST), Reiki, healing touch, and gentle/therapeutic touch<sup>22-30</sup>
- Reduction in depressive symptoms: 8/9 (88.9%)
  - LOE 1: 1/9; LOE 2: 7/9; LOE 3: 1/9
- LOE 1 study: RCT among active military with PTSD symptoms (n = 123)<sup>22</sup>
  - Healing touch combined with guided imagery for 3 weeks
  - Decrease in PTSD symptoms and depression ( $p < 0.0005$ )
- 2 studies included diagnosed participants with mood-related disorders
  - Richeson et al – Reiki<sup>26</sup>
  - Weze et al – Gentle touch<sup>29</sup>

# Manual Therapy



Photo [source](#)

- Reduction in depressive symptoms: 9/14 (64%)<sup>17,19,31-42</sup>
  - LOE 1: 2/14 and LOE 2: 12/14
- Double randomized controlled trial<sup>36</sup>
  - N = 84 adults with tension-type headaches
  - Compared suboccipital soft tissue vs articulatory vs combination of techniques
  - Articulation lowered depression scores more
- Strength: Available through physical therapy, majority show depression reduction
- Limitation: variable techniques utilized, no participants clinically diagnosed with depression

# OMT

- Reduction in depressive symptoms: 5/10 (50%)<sup>43-52</sup>
  - LOE 2: 9/10 and LOE 3: 1/10
- 2 studies included participants diagnosed with depression
  - N = 16; depression score decrease at week 8 ( $p=0.041$ )<sup>50</sup>
  - N = 17 females treated with Paxil and psychotherapy<sup>51</sup>
    - 100% of OMT group compared to 33% of control group tested “normal” on Zung Self-Rating Depression Scale after 8 weeks ( $p<0.001$ )
- Strength: combined with psychopharmacology and psychotherapy, maintained decrease in symptoms at 8 weeks
- Limitation: small sample size limits generalizability

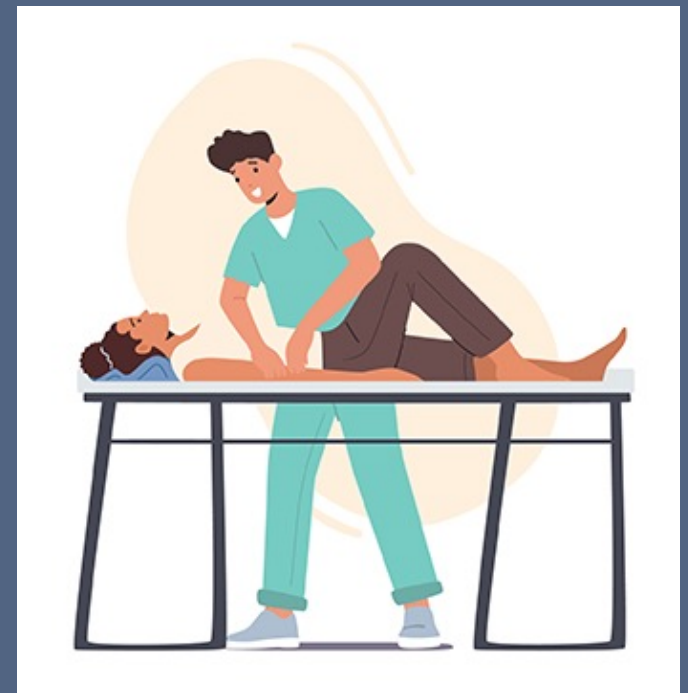


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# Foot Reflexology

- Reduction in depressive symptoms: 2/3 (66.7%)<sup>53-55</sup>
  - LOE 1: 1/3 and LOE 2: 2/3
- N = 90 menopausal patients with depression (LOE 2)<sup>54</sup>
  - Foot reflexology for 6 weeks
  - Decreased in depression scale scores at 6 weeks and 2 months post-intervention
- Strength: maintained decreased scores post-intervention, safe and simple modality procedure
- Limitation: variety of providers delivered modality, more studies required

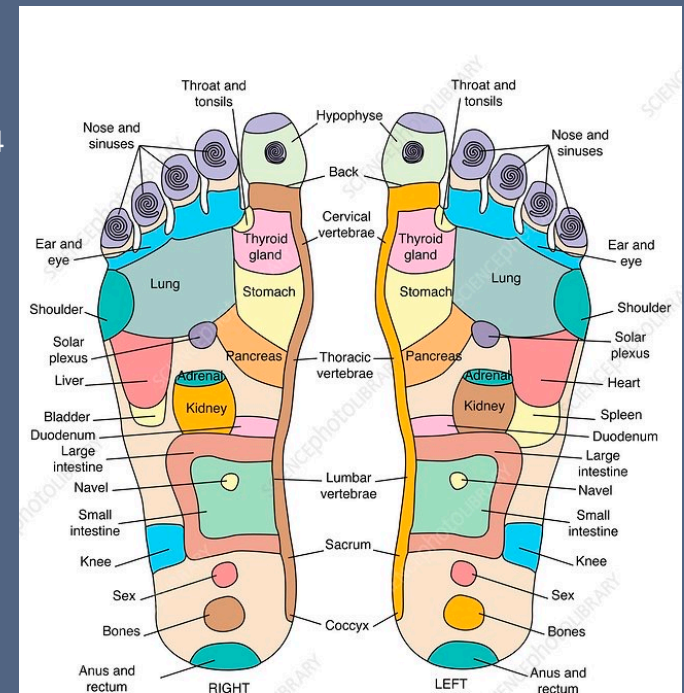


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# Massage Therapy

- Reduction in depressive symptoms: 32/45 (71.1%)<sup>10,25,56-98</sup>
  - LOE 1: 1/45; LOE 2: 43/45; LOE 3 = 1/45
- 12 studies including participants with mood-related diagnoses
  - 10/12 (83.3%) reduced depressive symptoms
  - LOE 2: 11/12; LOE 3: 1/12
  - Populations:
    - Students
    - Adults
    - Adolescents
    - Pregnant females
    - Inpatient 15-25-year-olds (no reduction)
    - Patients with HIV
    - Elderly with dementia
    - Adults with cancer (no reduction)

Photo [source](#)



## Massage Therapy cont.

- N = 52 hospitalized adolescents with MDD, dysthymia or adjustment disorder<sup>68</sup>
  - 5 days of 30-minute massages
  - Immediate reduction ( $p=0.005$ ) and at day 5 ( $p=0.01$ )
- Strength: numerous studies reveal effectiveness in reducing symptoms, applicable to many including special populations
- Limitation: variable provider training

# Other Soft Tissue Therapies

- Includes myofascial physiotherapy and connective tissue manipulation (CMT) <sup>99-103</sup>
- Reduction in depressive symptoms: 2/5 (40%)
  - LOE 2: 5/5
  - Reduction in symptoms only reported in connective tissue manipulation studies
- No studies with formally diagnosed psychiatric participants
- Strength: specific modality illustrated
- Limitation: limited efficacy despite positive results for CMT; variable providers

# Additional Observations

- Most studies examined depressive symptoms as a secondary outcome measure
- Most participants had diagnoses of chronic pain syndromes or diseases
- 17 studies included patients specifically diagnosed with MDD, depression, adjustment disorder or SAD.
  - 15 of these studies (88.2%) had significant reduction in depression symptoms
    - Massage therapy – 9
    - OMT – 2
    - Acupressure – 1
    - Reiki – 1
    - Gentle touch – 1
    - Foot reflexology – 1

# Recommendation

- All receive an SOR B

<b>Depression outcomes and LOE by modality</b>				
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<b>LOE, level of evidence; OMT, osteopathic manipulative treatment</b>				

# Limitations of Review

- Heterogeneity in study design
- Variety of depression measures
- Patient populations
- Level of training of those providing interventions
- Standardization or lack thereof of therapy modality
- Small sample sizes limits statistical power
- Lack of long-term analyses
- Few intention-to-treat analyses
- Limitation of application in clinical setting (longitudinal care)

# Conclusion

- Massage therapy had the most robust data, including participants with mood-related disorders
- OMT had the second highest ratio of articles including participants with mood-related disorders
- Acupressure and craniosacral therapy had most consistent results
- More research required for patients clinically diagnosed
  - Emphasis in long-term outcomes and larger sample sizes

**Manipulative therapies should be considered in the multimodal approach for treating mood-related disorders.**



Questions?

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