

Table 1: Systematic reviews of massage therapy for cancer

Source: Helen Cooke, CAM-Cancer Consortium. [Massage \[online document\]](#). September 2016

First author (year) [ref]	Main outcomes	Number of studies Type of studies Number of patients included	Main results/Conclusion	Comments (how were searches performed, quality of included studies, etc).
Boyd (2016) [18]	Pain, function-related and health-related QOL, all cancer patients.	At least 4 (not specified in text) electronic databases were searched through February 2014 in English. 16 CTs (n=2034) Meta-analysis conducted on 15 studies.	Pain Intensity/Severity Massage vs. No Treatment 3 studies (n=167). All 3 included in Meta-analysis. (SMD, -0.20; 95% CI, -0.99 to 0.59; I2 = 82.60%) at post-treatment. Pain: Massage vs active comparator. 10 studies (n=708). 6 studies (n=370) included in Meta-analysis. (SMD, -0.55 (95% CI, -1.23 to 0.14; I2 = 89.26%) for a reduction of pain intensity/severity Fatigue: Massage vs active comparator. 6 studies (n=539). 3 studies (n=235) included in Meta-analysis. (SMD, -1.06 (95% CI, -2.18 to 0.05; I2 = 92.81%). Stress, Mood, and Health-Related QOL Massage vs active comparator. 8 studies (n=620) 3 studies (n=234) included in Meta-analysis. (SMD, -1.24 (95% CI, -2.44 to -0.03; I2 = 93.56%).	Samueli Institute's systematic Rapid Evidence Assessment of Literature review process was utilised. Eligible RCTs assessed using the SIGN 50 Checklist. The below meta-analysis [Lee, 2015*] demonstrated larger overall effects for massage on cancer pain. Methodological quality was assessed using different methodology and a wider number of databases were included in the Lee SR. The Boyd review included a more recent search. Lee included other types of massage (reflexology/shiatsu). Methodological limitations: Only trials reported in English were included which may introduce bias.
Lee (2015) [19]	Pain, all cancer patients	9 electronic databases searched for studies published through August 2013 in English, Chinese, and Korean. 12 RCTs (n=559)	Significantly reduced cancer pain, especially surgery-related pain compared with no massage treatment or conventional care SMD, -1.25; 95% CI -1.63 to -0.87) Foot reflexology appeared to be more effective than body or aroma massage	Wide range of databases without language restrictions. Methodological quality was assessed using the Physiotherapy Evidence Database (PEDro) and Cochrane risk-of-bias scales. No details of type of conventional care. Limitations: possible selection bias, small number of long-term studies. Several different types of massage used including reflexology and shiatsu.

Shin (2016) [20]	Pain, psychological symptoms, all cancer patients.	8 electronic databases searched for studies published through August 2015 with no language restriction. 19 studies (n=1274) Meta-analysis conducted on 5 studies.	Massage compared with no-massage Short-term pain (PPI-VS) relief was greater for intervention group (1 RCT, n = 72, mean difference (MD) -1.60, 95% confidence interval (CI) -2.67 to - 0.53). Data for anxiety (STAI-state) relief. No significant between group difference (3 RCTs, n = 98, combined MD -5.36, 95% CI -16.06 to 5.34). Subgroup analysis for anxiety for children. Anxiety relief greater for the intervention group (1 RCT, n = 30, MD -14.70, 95% CI - 19.33 to -10.07). Massage with aromatherapy vs no-massage Relief of medium- and long-term pain (medium-term: 1 RCT, n = 86, MD 5.30, 95% CI 1.52 to 9.08; long-term: 1 RCT, n = 86, MD 3.80, 95% CI 0.19 to 7.41), anxiety (2 RCTs, n = 253, combined MD -4.50, 95% CI -7.70 to -1.30), and long-term symptoms relating to the breast in people with breast cancer (1 RCT, n = 86, MD -9.80, 95% CI -19.13 to -0.47) greater for intervention group - not considered clinically significant. Medium-term QOL score was lower (better) for the intervention group. (1 RCT, n = 30, MD -2.00, 95% CI -3.46 to -0.54). Massage with aromatherapy vs massage without aromatherapy Unable to be assessed - limited available evidence.	Methodological components of the trials assessed and classified according to the Cochrane Handbook for Systematic Reviews of Interventions Evidence assessed using GRADE (Grading of Recommendations Assessment, Development and Evaluation). The GRADE quality of evidence was downgraded for all outcomes to very low because of observed imprecision, indirectness, imbalance between groups in many studies, and limitations of study design. Fourteen studies had a high risk of bias related to sample size and 15 studies had a low risk of bias for blinding the outcome assessment. The studies were judged to be at unclear risk of bias overall. Most studies were too small to be reliable and key outcomes were not reported.
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Pan (2014) [21]	Breast cancer-related symptoms	3 electronic databases searched for studies published through June 2013 in English. 18 RCTs (n=950)	Significantly greater reductions in: anger (n=4) SMD -0.67; 95% CI, -0.98, -0.36; p<0.0001 pain (n=4) SMD, -0.33; 95% CI, -0.69, -0.03; p=0.07) fatigue (n=5) SMD, -0.61; 95% CI, -1.09, -0.13; p=0.01) No significant differences in: depression (n=8) SMD, -0.29; 95% CI, -0.56, 0.10; p=0.17 anxiety (n=8) SMD, -0.08; 95% CI, -0.44, 0.28; p=0.65) upper limb lymphedema (n=3) SMD, 0.00; 95% CI, -0.39, 0.38; p=0.98) cortisol (n=4) SMD, -0.29; 95% CI, -0.56, 0.10; p=0.17 health-related QoL (n=8) SMD, -0.11; 95% CI, -0.59, 0.38; p=0.67.	Risk of bias evaluated using the Cochrane Handbook 5.2 standards. Anxiety, depression and pain states were inadequately controlled for non-specific effects (analgesics and anti-emetics were used by some of the participants). Small number of databases searched Methodological limitations of some of the included trials: lack of control of non-specific effects and inadequate control groups). Control groups varied from self-initiated support (n=4), standard healthcare (n=7), health educations classes (n=2), visit (n=1), modified massage treatment (n=1), bandaging (n=1) and self-administered support (n=1).
Ernst (2009) [22]	Palliative and supportive care, various outcomes, all cancer patients.	6 databases searched until November 2008 14 RCTs (n=1123)	Results suggested that massage may help relieve pain, nausea, anxiety, fatigue, stress, anger and depression.	Methodological limitations of the included studies: small sample sizes, adequate control condition for comparison with massage, and lack of evaluation of long-term effects of massage
Wilkinson (2006) [23]	QoL, psychological or physical problems and adverse effects	10 databases searched until September 2006 10 studies (n=428): RCTs, pre-post test studies, interrupted time-series studies.	Reduced anxiety on a short term, may reduce physical symptoms such as nausea and pain	Methodological limitations: small trials, no long-term follow-up
Hughes (2008) [27]	Supportive care, children with cancer Non-systematic review	PubMed was searched using the reported terms (no dates given). Online references, published government reports, reviews, relevant books and bibliographies also searched 25 Clinical trials included. 23 RCTs. 2 CTs and 12 observational studies	Light to medium pressure massage may help reduce pain, anxiety, depression, constipation and high blood pressure in children with cancer. May support the function of the immune system during periods of immune suppression following cancer treatments (e.g. chemotherapy)	Small number of databases searched Methodological shortcomings The review included both adult and paediatric populations. No quality assessment of the included studies appears to have been performed which reduces the reliability of the review

RCT: randomised controlled trial, SMD: Standardised mean difference, CI: confidence interval, QoL: quality of life