

# Evidence Based Massage: Low Back Pain

## How your local Remedial Massage Therapist fits into the primary care paradigm

Many recent studies demonstrate the efficacy of Remedial Massage Therapy in the treatment of chronic and sub-acute Low Back Pain (LBP).

In 2002, the Cochrane Collaboration published a review of massage with the objective of assessing the effects of massage therapy for non-specific LBP.<sup>1</sup> Eight randomised trials were featured. The authors concluded that massage therapy appeared to be beneficial for patients with subacute and chronic non-specific LBP, especially when the treatment was combined with exercises and education, and delivered by a qualified Massage Therapist. The results of one high quality study showed that the benefits of Massage Therapy last as long as one year following the end of active treatment.<sup>2</sup>

In summarising the implications for practice, the authors of the Cochrane Review made the following observation:

"Massage is beneficial for patients with subacute and chronic non-specific LBP in terms of improving symptoms and function. Massage therapy is costly, but it may save money in health care provider visits, pain medications and costs of back care services."<sup>3</sup>

In a separate review comparing the effectiveness, safety and cost of acupuncture, massage therapy and spinal manipulation for back pain, researchers concluded that the preliminary evidence suggests that massage therapy, but not acupuncture or spinal manipulation, may reduce the costs of care after an initial course of therapy.<sup>4</sup> This conclusion was based on analysis of 49 randomised, controlled trials.

Remedial Massage Therapy can be utilised as part of a multi-disciplinary approach to non-specific LBP and also as an effective standalone therapy where the precise soft tissue mechanisms and etiology are known. One frequent cause of LBP is the presence of active myofascial trigger points (TrPs) in the quadratus lumborum, multifidi, gluteus medius and psoas major muscles.<sup>5</sup> Remedial Massage Therapists are trained to assess and treat TrPs using a variety of manual techniques, as well as addressing restrictions and shortening in the myofascia. Given the prevalence of connective tissue induration in muscle fibre, particularly in the lower multifidus triangle, the effect of soft tissue mobilisation in prevention and rehabilitation of LBP is significant.<sup>6</sup>

Your local Remedial Massage Therapist can work closely with the primary care team to ensure best practice outcomes for the low back pain patient.

<sup>1</sup> Furlan AD, Brosseau L, Imamura M, Irvin E "Massage for low back pain". Cochrane Database Syst Rev 2002: CD001929

<sup>2</sup> Cherkin DC, Eisenberg D, Sherman KJ, Barlow W, Kaptchuk TJ, Street J, et al. "Randomized trial comparing traditional Chinese medical acupuncture, therapeutic massage, and self-care education for chronic low back pain", **Archives of Internal Medicine**, 2001;161:1081-8.

<sup>3</sup> Furlan et al

<sup>4</sup> Cherkin DC, Sherman KJ, Deyo RA, Shekelle PG. (2002) "A review of the evidence for the effectiveness, safety, and cost of acupuncture, massage therapy, and spinal manipulation for back pain", **Annals of Internal Medicine**, 2003;138(11):898-906

<sup>5</sup> Travell JG, Simons DG Myofascial Pain and Dysfunction: The TriggerPoint Manual. volume 2- the lower extremities Lippincott Williams Wilkins; 23-131 & 150-167

<sup>6</sup> Williams, PE, Katanese, T, Lucey, EG and Goldspink, G, "The importance of stretch and contractile activity in the prevention of connective tissue accumulation in muscle", **Journal of Anatomy**, 1988, 158, pp109-114.

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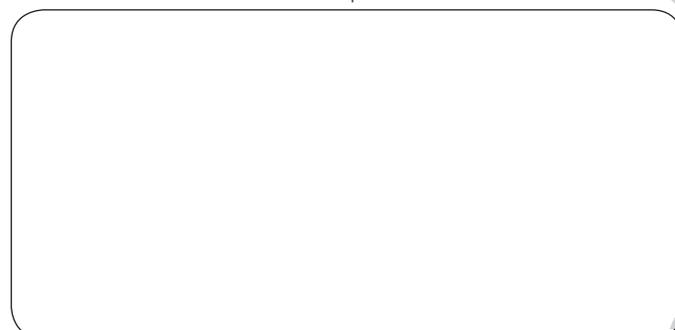
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# Evidence Based Massage: Stress and Hypertension

## How your local Massage Therapist fits into the primary care paradigm

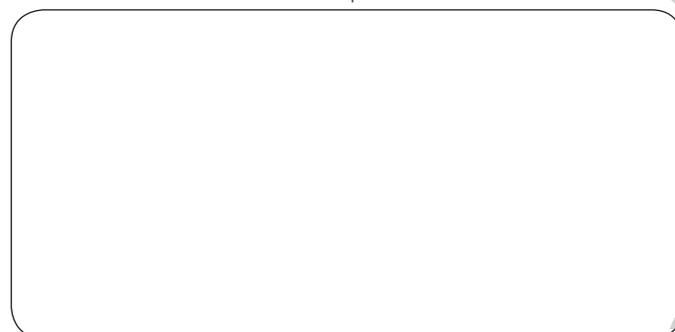
The trend towards evidence-based models of healthcare has helped to highlight the benefits of preventive and wellness forms of complementary treatment such as Swedish Massage. Recent studies demonstrate that massage therapy can assist in the management of hypertension due to stress.

In one 2005 study, a team of researchers investigated the effect of relaxation massage on 16 healthy males.<sup>1</sup> Immediate post-treatment effects included a drop in systolic blood pressure. After six weeks of twice-weekly massage, the diastolic blood pressure was reduced by 11% with an immediate post-treatment net decrease of 22%.

In a U.S. study, 30 adults with at least a 6-month medical diagnosis of hypertension were randomly assigned into either a massage group or a progressive muscle relaxation group. The massage group received a standardised, Swedish massage twice weekly for 5 weeks. This group recorded a sitting diastolic and systolic blood pressure decrease after the first and last sessions. Reclining diastolic blood pressure declined from the first to the last day of the 5-week treatment period.<sup>2</sup> Both groups reported less anxiety and depression on two psychometric measures (STAI and CES-D) but salivary and urinary stress hormones decreased only for the massage therapy group.

A preliminary study from the University of South Florida tested the effects of a regularly applied back massage on the blood pressure of patients with clinically diagnosed hypertension. Subjects received a series of ten, 10-minute back massages three times a week while a control group relaxed in the same environment over ten sessions.

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Analysis of variance determined that systolic and diastolic blood pressure changed significantly between groups over time.<sup>3</sup> Effect size was 2.25 for systolic pressure and 1.56 for diastolic pressure, suggesting that regular massage may lower blood pressure in hypertensive persons.

In yet another study, 54 adults (60+) were randomly selected for two treatment groups. The objective was to assess the effects of massage therapy compared with guided relaxation on stress perception and wellbeing among older adults. Results showed significant improvements in the anxiety, depression, vitality, general health, perceived stress and positive well-being subscales of the General Wellbeing Schedule among the massage participants.<sup>4</sup>

This evidence underscores the key role that your local Massage Therapist can play as part of a multidisciplinary care team involved in the management of hypertension and stress.

<sup>1</sup> M. Aourella, M. Skooga, J. Carleson, "Effects of Swedish massage on blood pressure", **Complementary Therapies in Clinical Practice** (2005) 11, 242-246

<sup>2</sup> M. Hernandez-Reif, T. Field, J. Krasnegor, H. Theakston, Z. Hossain, I. Burman, "High blood pressure and associated symptoms were reduced by massage therapy", **Journal of Bodywork and Movement Therapies** (2000) 4(1), 31-38

<sup>3</sup> C. Olney, "The effect of therapeutic back massage in hypertensive persons: a preliminary study", **Biological Research for Nursing**, 2005 Oct;7(2), 98-105

<sup>4</sup> P. Sharpe, H. Williams, M. Granner, J. Hussey, "A randomised study of the effects of massage therapy compared to guided relaxation on well-being and stress perception among older adults", **Complementary Therapies in Medicine** (2007), doi:10.1016/j.ctim.2007.01.004

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# Evidence Based Massage: Cancer

## How your local Massage Therapist fits into the primary care paradigm

Until relatively recently, common wisdom held that Massage Therapy was contraindicated for patients with cancer due to its circulatory-enhancing effects. However, current studies have demonstrated substantial symptom relief and immune system benefits from massage. The Memorial Sloan-Kettering Cancer Center in New York undertook a large and significant study. Over a 3-year period, 1290 cancer patients were treated with either Swedish Massage or foot massage. Symptom scores were reduced by approximately 50%, even for patients reporting high baseline scores. Outpatients of the Center improved about 10% more than inpatients.<sup>1</sup> Outcomes from Swedish Massage were superior to those from foot massage. The researchers concluded that massage therapy achieves major reductions in cancer patients' pain, fatigue, nausea, anxiety and depression, and that Massage Therapy appears to be a non-invasive and inexpensive means of symptom control for patients with serious chronic illness.

In another study investigating immune and neuroendocrine function, 34 Stage 1 and 2 breast cancer patients were randomly assigned to either a massage group or a control group. The immediate massage therapy effects included reduced anxiety, depressed mood and anger. The longer-term massage effects included reduced depression and hostility, and increased urinary dopamine, serotonin values, NK cell number, and lymphocytes.<sup>2</sup>

The efficacy of Manual Lymphatic Drainage (MLD) in the treatment of lymphoedema is well documented. In one recent case study, researchers measured the effect of MLD on 3 lymphoedema patients and demonstrated a significant clinical effect on the total fluid levels in the massaged and affected lymphoedematous limbs.

They also recorded a softening of the tissues of all of the major lymphatic territories.<sup>3</sup>

A recent meta-analysis encompassing 27 clinical trials of massage and meditation also suggests that there is substantial benefit in incorporating massage into the palliative care model. Results from 26 of the 27 trials showed significant improvements in symptoms such as anxiety, emotional distress, comfort, nausea and pain.<sup>4</sup> Although variations in methodology raised some questions about the clinical significance of this review, the principal finding was that the trials of massage exhibited substantial benefit for the end-of-life patient.

Your local Massage Therapist can work in close co-operation with the primary care team to reduce the symptoms and distress associated with cancer. The emerging evidence suggests a pivotal role for the Massage Therapist in the management of both the physical and psychological effects of serious, life-threatening illnesses.

<sup>1</sup> B. Cassileth and A. Vickers, "Massage Therapy for Symptom Control: Outcome Study at a Major Cancer Center", **Journal of Pain and Symptom Management**, Vol. 28 No. 3 September 2004

<sup>2</sup> M. Hernandez-Reif, G. Ironson, T. Field, J. Hurley, G. Katz, M. Diego, S. Weiss, M. Fletcher, S. Schanberg, C. Kuhn, I. Burman, "Breast cancer patients have improved immune and neuroendocrine functions following massage therapy", **Journal of Psychosomatic Research** 57 (2004) 45-52

<sup>3</sup> R. Harris, N. Piller, "Three case studies indicating the effectiveness of manual lymph drainage on patients with primary and secondary lymphoedema using objective measuring tools", **Journal of Bodywork and Movement Therapies** (2003) 7(4), 213-221

<sup>4</sup> W. Lafferty, L. Downey, R. McCarty, L. Standish, D. Patrick, "Evaluating CAM treatment at the end of life: A review of clinical trials for massage and meditation", **Complementary Therapies in Medicine** (2006) 14, 100-112

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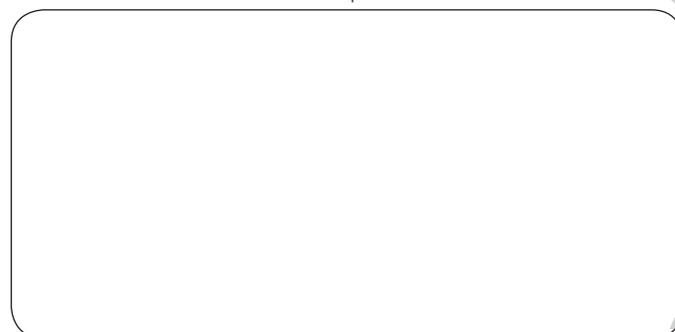
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# Evidence Based Massage: Tension Headache

## How your local Remedial Massage Therapist fits into the primary care paradigm

Recent studies have helped to validate the efficacy of manual interventions such as massage therapy in the treatment of chronic and episodic tension headache.

A team of researchers in Colorado investigated the effects of a standardised massage protocol specifically targeting the cranial and cervical muscles on a group of chronic tension headache sufferers.<sup>1</sup> Subjects received twice-weekly, half-hour massages for 4 weeks following a baseline period of 4 weeks with no treatment. Headache frequency was reduced within 1 week of massage treatment compared with baseline levels. This reduction was maintained during the 4 weeks of the treatment period. A trend toward a reduction in the average duration of each headache was also noted. The researchers concluded that massage therapy was an effective non-pharmacological intervention for the treatment of chronic tension headache.

In another study, researchers compared hardness in the trapezius muscle between chronic tension headache sufferers and healthy controls.<sup>2</sup> The study demonstrated that muscle hardness and muscle tenderness were permanently heightened in chronic tension type headache and not just a consequence of actual pain.

The influence of myofascial trigger points in the trapezius and suboccipital muscles has been the subject of several recent studies. Much of this recent study is based on the seminal work of Dr Janet Travell and Dr David Simons whose 2-volume manual **Myofascial Pain and Dysfunction: the Trigger Point Manual** became the definitive reference on myofascial pain for a generation of musculoskeletal specialists.

A 2006 Spanish study investigated referred pain and pain characteristics evoked from active trigger points in the upper trapezius muscle in 20 patients: the evoked referred pain and its sensory characteristics shared similar patterns as their habitual headache pain.<sup>3</sup> In a related study, Spanish researchers studied a group of episodic tension headache patients and described the referred pain patterns evoked by active trigger points in the suboccipital muscles. Headache patients were compared against two healthy control groups. The researchers postulated that suboccipital trigger points might contribute to the origin and/or maintenance of headache.<sup>4</sup>

Your local Remedial Massage Therapist can assist in the primary treatment of tension headache by employing manual techniques aimed at reducing hypertonicity and active trigger points in the pericranial and cervical muscles. Remedial Massage Therapists are specifically trained to assess and treat soft tissue dysfunctions that may contribute to this kind of presentation in the family medical practice.

<sup>1</sup> C. Quinn, C. Chandler, A. Moraska, "Massage Therapy and Frequency of Chronic Tension Headaches", **American Journal of Public Health**, October 2002, Vol 92, No. 10, pp 1657-1661,

<sup>2</sup> M. Ashina, L. Bendtsen, R. Jensen, F. Sakai, J. Olesen, "Muscle Hardness in Tension Type Headache: relation to actual pain state", **Pain**, 79 (1999), pp 201-205.

<sup>3</sup> C. Fernandez-de-las-Penas, Hong-You Ge, L. Arendt-Nielsen, M. Cuadrado, J. Pareja, "Referred pain from trapezius muscle trigger points shares similar characteristics with chronic tension type headache", **European Journal of Pain** 11 (2007) 475-482

<sup>4</sup> C. Fernandez-de-las-Penas, C. Alonso-Blanco, M. Cuadrado, J. Pareja, "Myofascial trigger points in the suboccipital muscles in episodic tension-type headache", **Manual Therapy** 11 (2006) 225-230

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