



Research Roundup

Recent research cited by the PubMed archive, on the NCBI website (with acknowledgements to the US National Library of Medicine (NLM))

From: Research in Sports Medicine, March 2018, 7:1-11
[Epub ahead of print] <https://doi.org/10.1080/15438627.2018.1447469>

A Randomized Controlled Trial of Manual Therapy and Pneumatic Compression for Recovery from Prolonged Running - an Extended Study

AM Heapy, MD Hoffman, HH Verhagen, SW Thompson, P Dhamija, FJ Sandford and MC Cooper

Manual therapy (MT) and intermittent pneumatic compression (IPC) are recovery methods used by endurance athletes with little evidence supporting effectiveness. This randomized controlled trial evaluated effectiveness of four daily post-race treatments of a specific MT protocol and IPC compared with supine rest on recovery following an ultramarathon among 56 competitors. One of the characteristics examined was post-race plasma creatine kinase concentration. Creatine kinase is an enzyme found in certain tissues of the body, including skeletal muscles. Elevated amounts detected in the blood detect can signify muscle fatigue / weakness / damage. The subjects completed 400m runs before the race and on days 3, 5, 7 and 14 post-race, and also provided muscle pain and soreness ratings and fatigue scores immediately before and after treatments, and during the 14 days post-race. Daily subjective measures and 400m run times were not improved by either treatment, but both treatments reduced ($p < .05$) muscular fatigue scores acutely after treatment following the race and on post-race day 1, and MT improved ($p < .05$) muscle pain and soreness acutely following the race. Another positive result supporting the case for massage as a good complement to exercise regimes!

https://www.ncbi.nlm.nih.gov/pubmed/29513036?ncbi_mmode=std

From: The International Journal of Therapeutic Massage and Bodywork, 5th August 2018, 11(3):15-19
<http://dx.doi.org/10.3822/ijtmb.v11i3.379>

The Potential Utility for Massage Therapy During Pregnancy to Decrease Stress and Tobacco Use

CM O'Hair, K Armstrong and HJV Rutherford

This article discusses the need for further research into ways to reduce stress experienced during pregnancy, so reducing the likelihood of smoking and the consequent damage to fetal development and detrimental effects on the health of both mother and child. In light of the existing body of research pointing to the power of massage to reduce stress levels, it proposes closer examination into the efficacy of massage as an effective stress-reducing tool during this period. The article states:

'Prenatal massage has a host of positive outcomes, including decreasing premature deliveries, rates of infants being born at low birth weight, and symptoms of postpartum depression. Further, massage may positively impact neurotransmitter systems implicated in mood regulation. Specifically, massage is associated with decreased levels of cortisol and increased levels of serotonin and dopamine. Serotonin has activating properties that have been synthetically replicated in antidepressant drugs to improve negative mood states. Increases in dopamine have also been associated with reduced levels of depression and stress.

Pregnancy massage, as compared to relaxation therapy, has also led to improvements in mood, sleep, and back pain, as well as decreased anxiety. Even in non-parents, very short massages have led to decreased heart rate and cortisol levels over time. One physiological mechanism that may underscore these positive benefits

of massage is vagal activity. This is most often measured by an individual's heart rate variability, acting as a measure of autonomic nervous system function and development. Evidence suggests that vagal activity increases following the receipt of massage and in response to a course of massage treatments. Vagal activity is also implicated in the massage-related changes in blood pressure, heart rate, and cortisol secretion, and may play a broader role in regulatory functioning. Together this research suggests that massage therapy has a beneficial consequence through decreasing stress levels which may be mediated by vagal activity. Consequently, if massage therapy does decrease stress during pregnancy, women may experience less stress and less craving, and, therefore, may be able to decrease their tobacco use.'

The authors state that much benefit can be derived from receiving a massage from a partner or family after pregnancy, which is notable considering the prevalence of postpartum depression. Massage could potentially reduce:

'...the need for repeated, time-intensive, in-clinic visits reduces the potential need to take time off work, and arrange childcare and transportation. These factors may make this intervention more accessible to mothers with lower levels of education and lower socio-economic status—stressors that have been found to put women at an increased risk for continuing tobacco use during pregnancy.'

The authors call for clinical trials in this area, and suggest that more positive effects could come from the combination of massage and other tobacco cessation methods.

<https://www.ncbi.nlm.nih.gov/pubmed/30108669>

From: The Journal of Exercise Rehabilitation, 30th June 2018, 14(3):516–522
<https://doi.org/10.12965/jer.1836126.063>

Effects of Pulse Ultrasound and Kneading Massage in Managing Individual with Incessant Pain at Lower Region of Back using Random Allocation

AO Ojoawo, EO Malomo, EO Olusegun and BMO Olaogun

This Nigerian study examined the effect of pulsed ultrasound (PUS) in management of patients with incessant pain at lower region of the back (PWIPLB) in comparison with kneading massage (KM). Fifty people were assigned to each group and both received stabilization / rehabilitation exercises. Each group had their treatments twice weekly for a 6-week period. Severity of pain (SP) and inability of patient (IoP) were evaluated at baseline, third week and sixth week of treatment. The study describes how PUS works, stating: 'Due to processes called non-thermal changes, various activities in the cell membrane improve the permeability of vascular wall which enables the tissues to heal faster.'

In terms of the massage:

'KM was done with the two hands maintaining a slow circular compression of soft tissues against underlying bone. Pressure was applied as the hands moved proximally, continuously maintaining a contact with the skin, according to Goats (1994). Lofnac gel was used as a coupling medium for the massage. This was done for an approximately 10 and 12 min.'

The results were as follows:

'A significant change was observed in pre compared with post-treatment SP ($F=32.6$, $P=0.000$) and IoP ($F=2.5$, $P<0.021$) in USG [ultrasound group]. A significant change was observed in pre compared with post-treatment IoP ($F=4.1$, $P<0.05$) but not in SP ($F=2.9$, $P<0.086$). In the 6th week, there was a significant reduction of SP in the USG relative to SP in the KMG [kneading massage group] ($F=11.98$, $P=0.000$), and there was improvement significantly in the IoP in the KMG relative to that in the USG ($F=2.58$, $P=0.05$). PUS may be better than KM in management of SP but KM is better than PUS in IoP with PWCPLB.'

This study points to the often effective results of a combined approach in treating particular conditions – exercise, massage and other types of therapy such as here, ultrasound. But the study also mentions acupuncture and other modalities that can be effective as well for lower back pain.

<https://www.ncbi.nlm.nih.gov/pubmed/30018942>

Catherine Stone is a massage therapist specializing in sports/remedial/soft tissue therapy; deep tissue, pregnancy and Thai massage, and manual lymphatic drainage.

www.cs-massagetherapy.co.uk