

# Collected Scientific Research Relating to the Use of Osteopathy with Muscle fatigue

## Important:

1) Osteopathy involves helping people's own self-healing abilities to work better, rather than focussing primarily on particular conditions.

2) Each person is different, and osteopathy treats them differently.

Therefore people respond to osteopathic treatment in different ways. Treatments that work for one person cannot be guaranteed to work for another person in the same way. The fact that there is scientific research supporting a treatment in a group of people does not mean that it will always work in the same way (which is probably true of all research).

A number of things make research into osteopathy challenging. These include the two aspects of osteopathy mentioned above, and also the lack of major commercial interests to provide funding in expectation of financial returns. At the same time, there is an emerging body of research demonstrating the usefulness of osteopathic treatment.

More research is being done all of the time. I am not aware of any research which shows that osteopathic treatment, delivered by a qualified osteopath, is ineffective in relation to this area. If you are aware of any studies that show that, please bring them to my attention.

Please note: there is room for debate about the classifications used for these studies. Please let John Smartt know if you believe that any of these classifications are incorrect.

# These studies are from peer-reviewed journals

Number  
of studies:  
2

## Clinically and statistically significant results

Number  
of studies:  
2

### Randomised controlled trials

Number of studies: 1

Zebrowska A, Trybulski R,, Roczniok R, Marcol W. 2017 **Effect of Physical Methods of Lymphatic Drainage on Postexercise Recovery of Mixed Martial Arts Athletes**. Clin J Sport Med Aug 16 <https://www.ncbi.nlm.nih.gov/pubmed/28817412>

#### "OBJECTIVE:

Physical methods are reported to be important for accelerating skeletal muscle regeneration, decreasing muscle soreness, and shortening of the recovery time. The aim of the study was to assess the effect of the physical methods of lymphatic drainage (PMLD) such as manual lymphatic drainage (MLD), the Bodyflow (BF) therapy, and lymphatic drainage by deep oscillation (DO) on postexercise regeneration of the forearm muscles of mixed martial arts (MMA) athletes.

#### DESIGN AND METHODS:

Eighty MMA athletes aged  $27.5 \pm 6.4$  years were allocated to 4 groups: MLD, the BF device, DO therapy, and the control group. Blood flow velocity in the cephalic vein was measured with the ultrasound Doppler velocity meter. Maximal strength of the forearm muscles (Fmax), muscle tissue tension, pain threshold, blood lactate concentration (LA), and activity of creatine kinase were measured in all groups at rest, after the muscle fatigue test (post-ex) and then 20 minutes, 24, and 48 hours after the application of PMLD.

#### RESULTS:

The muscle fatigue test reduced Fmax in all subjects, but in the groups receiving MLD, DO, and BF significantly higher Fmax was observed at recovery compared with post-ex values. The application of MDL reduced the postexercise blood LA and postexercise muscle tension.

#### CONCLUSIONS:

The lymphatic drainage methods, whether manual or using electro-stimulation and DO, improve postexercise regeneration of the forearm muscles of MMA athletes. The methods can be an important element of therapeutic management focused on optimizing training effects and reducing the risk of injuries of the combat sports athletes."

Vieira TM, Readi NG, Schwarcke L, Botter A 2015 **The effect of lymph drainage on the myoelectric manifestation of vastus lateralis fatigue: Preliminary results.** Conf Proc IEEE Eng Med Biol Soc Aug;2015:6671-4 <http://www.ncbi.nlm.nih.gov/pubmed/26737823>

"Variations in surface electromyograms (EMGs) collected from the vastus lateralis muscle during isometric fatiguing contractions were investigated pre-post lymphatic drainage (intervention group, N=3) and pre-post rest (control group, N=3). The slope of conduction velocity and of EMG amplitude and spectral descriptors was computed from the start to the failure time; the instant after which subjects could not endure contractions. When compared to subjects in the control group, those in the intervention group endured longer. Similarly, muscle fatigue affected to a lesser extent EMGs following lymphatic drainage than following rest. These preliminary results suggest the lymphatic drainage may potentially delay muscle fatigue."