Does sports massage work?

As any sports person worth their weight in gold medals would tell you sports massage is a part of their training diary, whether it's injury management, recovery aid, relaxation, performance enhancement or any other benefit they may derive. Yet when we look at research into the effects of sports massage, scientific evidence of these benefits appear to be thin on the ground. Does this mean we should despair as Sports Massage Practitioners and put down the effects of sports massage to the placebo effect?

If we believe the research, it is scientific after all, we may as well pack up our couches, wave goodbye to our clients and drum our fingers while we decide what to do with our careers. Unpack your couch, gather your clients and shout from the hills, as there is research that undeniably proves the value of Sports Massage.

Before we can appreciate the value of good research, let's see why those that fail to prove their value may be wasting valuable research funds. In order to do this I'm am going to make some assumptions about sports massage in general, compare it to something which would be tested in the way it is used and perhaps enlighten those spending their research buck to invest it more wisely.

Assumptions

1. In most instances, sports massage has a cumulative effect, you need more than one session to start feeling the effect, similar to taking vitamins or perhaps seeing a Physio. One dose of
treatment may have a short-term effect, but changing a deficiency or problem which has manifested itself over a long period of time will take more than one dose or session.

2. Not all techniques are created equal, while effleurage and petrissage form an important part in sports massage, when it comes to restoring soft tissue back to normality, it takes more than the basics. You need tools that tackle the problem, such as STR, NMT, myofascial release, MET and deep friction, each of which play a different role depending on what caused the tissue to dysfunction. If a client presented with a migraine, prescribing an everyday headache tablet will certainly not resolve the problem.

3. Not all massage therapists are created equal. Period. All doctors go through the same basic training and then specialise, so trying to tell what they do by only looking at the MD behind their name may be a bit misleading. If you need a hip replacement you may need to dig a little deeper to find the doctor who is up to the task. So if you are looking for a massage therapist to change the state of your soft tissues, you’ve got it, you have to dig deeper, no puns intended.

Let’s look at some of last year’s research on massage, fresh in our minds thanks to the massage review in January’s edition (issue 27) of Sportex Medicine kindly presented by Dr Zoë Hudson. To get the complete methodology, research finding, etc. you’ll need to read the article. What I am hoping to do is to demonstrate why research into massage falls short of proving what it intends, especially as we see these changes when working with our clients.
In order to highlight this I will be replacing massage for one of the other products/profession in the assumptions.

The mechanisms of massage and effects on performance, muscle recovery and injury prevention

P Weerapong, PA Hume, GS Koit

This research paper used western or Swedish style massage techniques to explore the theoretical effects of massage, such as biomechanical, physiological, neurological and psychological changes.

No surprise then that a positive psychological effect with regards to relaxation and perceived recovery from fatigue were presented, yet the evidence seemed to be limited with regard to the effect on performance, recovery and prevention of muscle injury.

Dr Zoë Hudson, who reviewed the research on behalf of Sportex concluded “While any review draws the reader to the limitations of the evidence... there are still many areas still to be evaluated”. She also goes on to highlight” that is it is a well written, easy to follow review... clinicians will find these very quick and useful reference point”.

That may all be well and good, but if the evidence presented in the first instance is based on the use of techniques that do not specialise in enhancing performance and preventing injury, then the research is lacking and does not arm clinicians with an
accurate lay of the land. If the researchers were going to use this model based on Assumption 3, for a hip replacement would they have used a general surgeon or would they have approached a hip replacement specialist?

Evaluation of the effect of two massage techniques on hamstring muscle length in competitive hockey players
D Hopper, M Conneely, F Chromiak, E Canini, J Berggren, K Briffa

This paper utilised 39 hockey players to look at whether massage could change hamstring muscle length, they evaluated them on day 1, the control day, then the following day gave them an 8 minute treatment. 8 minutes! Then evaluated them again 24 hours later to determine whether changes in muscle length had occurred. The study did show that massage can increase muscle length, albeit for a short period of time. The research concludes with a “so what?” attitude and what does this mean clinically?

Let’s use Assumption 1 and replace massage with chemotherapy, which also has a cumulative effect. Would the researchers have given one small dose of chemotherapy, and then concluded that the treatment had a short-term effect, but “so what?”. I doubt it very much.

The review goes on to say, “The fact is, the clinical implications for injury prevention are unknown, but the results could be used to justify a treatment approach for someone presenting with tight hamstrings”. Certainly, but if you give the wrong chemotherapy to a patient, you are unlikely to get a good result. Research spend could be more effectively utilised by
looking at different techniques and which one works for injury prevention. By utilising therapists qualified and experienced in applying correct remedial techniques may result in more positive outcomes for their research.

Effects of massage on delayed-onset muscle soreness, swelling and recovery of muscle function

Z Zainuddin, M Newton, P Sacco, K Nosaka

Dr Zoë Hudson’s review on this paper indicates that massage may reduce DOMS (delayed onset of muscle soreness) following eccentric upper limb weight training and in addition there was no effect on muscle strength when evaluated with 2 strength evaluation techniques.

To the athlete DOMS reduces training time as recovery takes longer, thus impacting their performance. While this may not be of much interest to the broader medical field, to the athlete any time away from training is a loss in fitness and a gain to their competitors. So I can understand why a more in-depth review of this research was not highlighted in the article. I would strongly recommend reading this research, with evidence of massage effectively alleviating DOMS by approximately 30% and reducing swelling, it’s the type of information you want to be passing onto your clients. Although the research was not able to demonstrate recovery in muscle function, this may be related to the basic sports massage techniques being used – effleurage, petrissage and deep friction only. The full research paper can be found on:
If there is only one thing you read in this article, this is it. This last look at research on the effectiveness of massage is from a few years back, it reflects more accurately how massage is used in the real world as administered by suitably qualified sports massage practitioners.

So what does massage actually do for performance and injury prevention?

Look at any professional cyclist and not far away is their massage therapist or soigneur. Actually look at most professional athletes and you find a massage therapist in the background.

While research as failed to measure changes in muscle lactate, or increases in blood flow, it has proved something more worthwhile, in my opinion. If an athlete were told that sports massage could assist with improving strength and flexibility, they would certainly want some proof and by how much. Below is the research that proves just that.

The effects of chronic sports massage on strength and flexibility
Medical & Sci. Sports & Exercise
34(5) Supplement 1:47

Using a goniometer (an instrument that either measures angles or allows an object to be rotated to a precise angular position) to measure joint flexibility and the One Rep Max Hamstring Curl to test the strength of each leg, data has been collected from 11
subjects who underwent massage of a quantified amount (350-400 strokes per session) on the hamstrings, where only one leg received massage, thus using the other leg as the control.

At the end of 10 weeks, with three massages a week, the leg that received massage had an increase in joint flexibility by four degrees, this being a statistically significant amount. More importantly an increase of more than 13% was seen in the one-rep curl, while the non-massaged leg showed no increase in joint flexibility or strength.

Let me repeat that just in case it did not sink in, an increase of 4 degrees in flexibility and 13% in strength.

What pits this 2002 research against the 2005 research in obtaining effective results, is the use of sports massage. In addition it is applied in manner in which it is utilised in the real sporting world.

Trying to find hard scientific evidence to back the benefits of sports massage may be few and far between, does this mean that sports massage does not work, or that the scientists just can’t measure it? Perhaps it is that the benefits of sports massage are a functional gain after treatment and not something that can be measured at the time.

I’ll leave you to draw the final conclusion.

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