



How average people can enjoy the benefits professional sports people get

Why professional sports clubs and others make heavy use of massage

Professional sports clubs and athletes are heavy users of massage. Used before sport it helps warm up and loosens muscles, improving performance and reducing the risk of injury. Used after it helps recovery and reduces post exercise soreness. To rehabilitate an injury an athlete may be in the treatment room getting massaged every day, or even twice a day. Some enlightened companies use massage to. For example office workers may have their shoulders and neck massaged to reduce stress and to prevent long term pain syndromes and injury.

What about Mr and Mrs Average?

What happens to Mr and Mrs average? Unless they are very rich they can't afford professional masseurs to do all that. If they play sport or exercise they cross their fingers hoping they don't get injured. Afterwards they just take longer to recover and put up with the extra pain. If they have an injury or some sort of pain syndrome they are certainly not going to get the soft tissue treatment once or twice a day. It would be way to expensive and time consuming. Most practitioners understand that and would not even suggest it. Mr and Mrs Average just take longer to get better, probably never completely recover, and suffer continual relapses. What about the massages after work or or the regular health maintenance massages that some companies provide? No, Mr and Mrs Average get to be stressed, stiffen up and develop long term pain syndromes like all the other Mr and Mrs Averages.

How sports people started to make massage readily available

Several years ago sports, athletics and personal trainers saw the success and benefits others derived by using massage. They wanted it for their clients. The question was how to access this valuable therapy at a reasonable cost. Some came up with a self massage technique where one basically uses one's body weight on a foam roller. This emulates manual massage. According to it's proponents it may not be as effective as having a professional masseur, but one can get practically unlimited massage for a single small cost.

People trying to help themselves is a very good idea, and the use of foam rollers is certainly better than nothing. However, some muscles are difficult to access this way, and foam rolling requires a reasonable degree of skill to perform properly. Persons would need a good knowledge of anatomy and technique, but more importantly in adjusting the pressure applied one would need to be able to extinguish between the level of discomfort related to trigger points and a potential injurious situation. If a person does misjudge this they would cause injury or further worsen an existing problem.

What the research shows

A review of the trials done on the use of foam rollers (see appendix 1) shows a mixed bag. Some found that the foam rollers were quite effective, while others showed no benefits at all. This author's theory is that myofascial release, the soft tissue therapy that the use of foam rollers is trying to emulate, is very effective. If skilfully used a foam roller could produce a similar result. However, users would need an excellent knowledge of the relevant anatomy and so forth, and be able to distinguish between the "good pain" of an effective massage, and the pain of tissue injury. With those variables some inconsistent results would be expected. Simply speaking, some would get it right, some would be ineffectual, while others would be injuring themselves thinking that they were doing good. It must be considered though that the protocols of the trials would have been rigorously supervised. In the trials any subject with an injury would have been excluded, and the procedures meticulously explained. What would happen in the real world with less supervision, less meticulous teaching of techniques, and people with injuries not being excluded?

Introducing the home use of vibration massage

Like those involved with sports and athletics we at DrGraeme saw the need to make massage more readily available, though not just for sports but for the many other reasons including those discussed at the beginning of this article. The way we chose to fill this need was to develop a serious hand held massager capable of producing professional results while being suitable for use by the public. How does vibration massage compared with the use of foam rollers?

Ease of use

Rather than have to manoeuvre one's body weight and adjust one's position to emulate the pressure of a manual masseur, all one has to do is place the massager head on the appropriate part and let the vibrations do the work. There is no need to try and adjust the pressure to achieve the "good pain". In fact, as one does not need to press in there is usually little or no pain, and probably less potential to cause injury.

Cost

This used to be a significant factor. As a generalisation, previously serious hand held massagers were only built in small numbers with high budget marketing aimed at sales to professionals. They were very expensive compared to a simple foam roller. At DrGraeme we've changed that, now having a very seriously capable massager available to all at a very reasonable price. They are still more expensive than a foam roller, but probably no more expensive than a single hour with a professional masseur.

Convenience

Vibration massager are very convenient, but they still need to be plugged into a power supply

Do they work?

Clinical trials show the application of vibration massage to work well (See appendix 2).

Some issues when using vibration massage

General health and preventative uses

Vibration massage is a relatively safe. If people without serious issues use them with a few simple precautions there should be no problem. This means that there should be no great issues with healthy people using them for things such as pre-sport, post-sport, general maintenance, wellbeing, and after a hard day's work. For an initial basic investment a user can have practically unlimited quality massage.

Injuries and pain syndromes

The use of hand held vibration massagers can be a powerful and effective form of therapy. However, if one has any sort of injury or pain syndrome this needs to be investigated by a qualified professional who can advise the most appropriate management and treatment plan, which may include massage. Lets look at how this might work in practice.

An example of quality professional management using supplementary self massage

Let us use an example of a professional sports person injuring his or her ankle. A qualified practitioner perform an examination. If warranted further investigations could be ordered. Initially the injury would probably be supported with a brace or a bandage, with ice applied. Massage may be appropriate for the calf muscles at this stage, but certainly not for the injury itself. As the injury healed the qualified practitioner would perform further examination, provide advice, exercises and possibly use manual joint mobilisation. At this stage some sort of massage therapy may be very useful. The patient could apply regular massage using a hand held massager, under the advice of the qualified practitioner managing the case. During this process the practitioner would monitor the progress and adjust the management as necessary.

About the author

Dr Graeme Blennerhassett is a Chiropractor practicing in Australia. Several years ago he perceived the need for his patients to have extra massage so he developed the first "DrGraeme" massagers, then started sharing them with colleagues. This has grown to now supplying clinics and the public across Australia,

Appendix One: The research on the use of foam rollers

Trial 1

The treatment group performed self massages using a foam roller over an eight week period. The length of the hamstrings was measured by measuring knee extension with the hip at 90 degrees flexion. Compared with the control group no significant difference was found.

Trial 2

The effect of using foam roller on various aspects of athletics performance were measured. No improvement was found.

Trial 3

Hip extension was measured using a lunge. After one week there was some improvement. The use of five sessions a week produced no further improvement. However, participants felt satisfied with their intervention and were happy with the feeling of self control.

Trial 4

Both hip extension and knee extension were measured. There was a small increase in hip extension, but none for knee flexion.

Trial 5

Hamstring length was assessed using hip flexion with the knee extended. The use of foam rollers caused an increase in length.

Trial 6

Hamstring flexibility was assessed using a sit and reach test. The use of foam rollers was shown to increase hamstring flexibility.

Trial 7

A four week trial measured hamstring length using a reach test. Both PNF stretching and the use of foam rollers were assessed. Both showed a similar increase in length.

Trial 8

Hamstring length was assessed by measuring knee extension with the hip at 90 degrees. Foam rollers produced no improvement.

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Appendix Two: The evidence on the use of vibration massage

Increased recovery and reduced post exercise soreness

In each trial strenuous exercise to induce post exercise soreness and fatigue.

First trial (1)

In this trial one third of participants had no treatment. One third were given conventional massage. The third group had their muscle massaged before exercise using a vibrating massager set at 50Hz (cycles per second). The results showed that both the conventional massage and the vibration massage resulted in significantly lower DOMS, with the vibration group recovering faster than the conventional massage group. They also showed that the group receiving the vibration massage had significantly less residual Lactic Acid.

Second trial (2)

In this trial the treatment group received a vibration massage of 50Hz to the centre of the muscle. There was a significant decrease in the soreness of the vibration massage group compared with the control. Muscles showed a decrease in maximum contraction strength post exercise, but this decrease was less in the vibration massage group.

Third trial (3)

In this trial the treatment group received a vibration massage of 30-50Hz, with the vibration massage group showing a significantly lower level of pain.

Fourth trial (4)

This trial used the combined intervention of having the exercise performed on a vibrating platform, and applying vibration massage to the muscles. They found significantly reduced pain 24-120 hours after exercise for the treatment group, plus blood chemistry tests showed that an immune response was produced.

Fifth trial (5)

This trial Used a vibration pad giving 30-65Hz, with 30 minute massages being given 30 minutes post exercise plus on days 1,2 3 and 4. Compared with the control, from days 2-5 soreness was 18-30% less, with soreness disappearing altogether earlier.

Review One (7)

“Vibration is an effective modality in the field of rehabilitation. Vibration therapy improves muscular strength, power development and kinaesthetic awareness [27], increased flexibility, motor unit synchronisation. Various researches which shows effectiveness of vibration therapy in management of DOMS”

Review Two (8)

“Vibration therapy before eccentric exercise may prevent and control DOMS”

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Research on the effect of vibration massage on joint range of motion (ROM)

In all the trials vibration massage was applied to muscles. Joint ranges of motion were measured, with increase being due to a lengthening of those muscles allowing the joint to move further,

Trial One (1)

Knee extension was measured with the hip flexed to 90 degrees. Multiple applications of 50 Hz (cycles per second) massage were applied to the hamstring muscles over a eight week period. Compared with the control group the massage group had an average increase of 13-14 degrees.

Trial Two (2)

Hip flexion was measured by attempting to touch ones toes. For the massage group a 44 Hz massage was applied each day to the hamstrings for three days. A stretching group used conventional stretches each day, while a third group acted as a control. Both the stretching and massage groups showed a similar significant improvement in hip joint ROM

Trial Three (3)

This trial used the toe touching measurement and hamstring massage. Vibration massage was used with unspecified protocol on the hamstrings and erector spinae muscles. The massage group showed a 5cm improvement as compared to the controls.

Trial Four (4)

In this trial a straight leg raise was measured. A proprietary device called “Deep Oscillation” was used. This is a device that has a pad that applies to the skin. The makers claim that it’s therapeutic affect is from mechanical vibrations that penetrate. From what I understand the pad creates an electrostatic attraction to the skin that switches on and off. It works like having a vacuum cleaner on your skin switching on and off very fast creating a vibration. In other words, it’s an impressive looking, patentable and very expensive way to create a simple mechanical vibration. Anyway, the Deep Oscillation group had an increase in SLR over the controls.

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