



@physicaltherapyresearch

RAPID RESEARCH

May 2021

Inside This Week: Are Massage Guns Effective?

-
- ✓ Massage Gun for Ankle Range of Motion & Performance

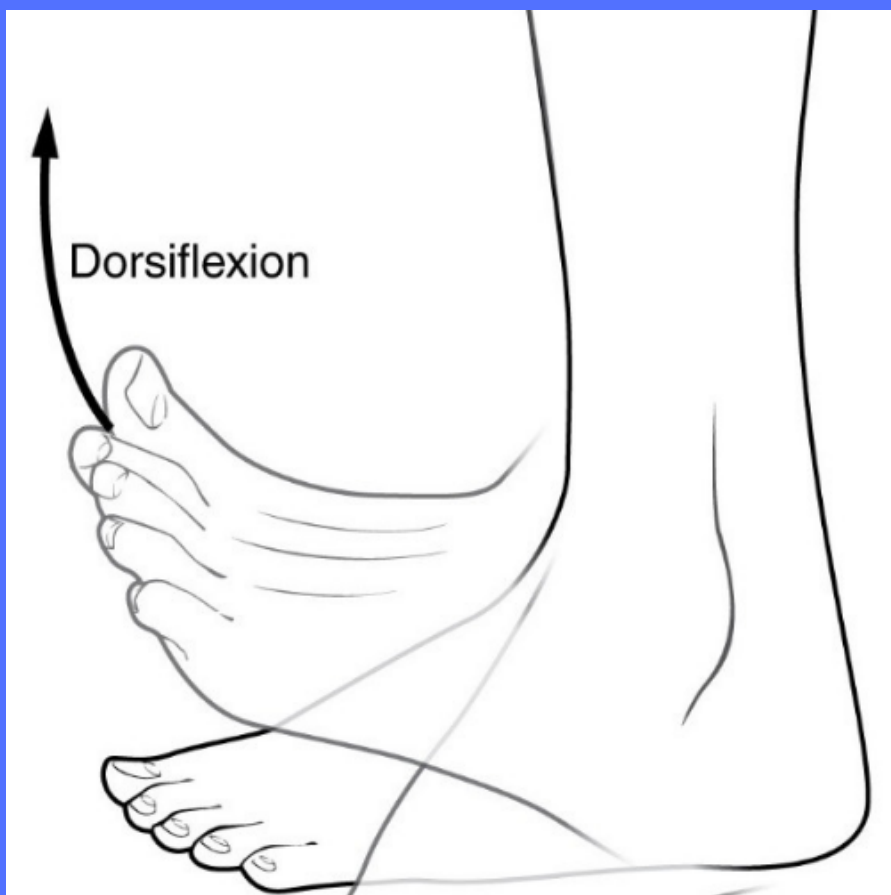
 - ✓ Hip and Knee Range of Movement after Massage Gun Treatment.

 - ✓ Are Massage Guns an Effective Rehab Tool?



MASSAGE GUN FOR ANKLE RANGE OF MOTION & PERFORMANCE

This study investigated the effects of a 5-min percussive massage treatment of the calf muscles on Ankle Dorsiflexion ROM and calf maximum voluntary contraction (MVC) torque, as a lack of evidence exists around percussive massage treatment and its affects on ROM and muscle strength.



KEY FINDINGS

16 males were tested on two separate days with either:
5-min massage treatment of the calf muscles.
Control condition (sitting only).

Before and after the treatments, dorsiflexion ROM and MVC torque of the plantar flexor muscles were measured with a dynamometer.

Maximum dorsiflexion ROM:

Increased 5.4 degrees following the massage treatment.
No change in the control group.

MVC torque:

No change in massage or control group.

MAIN TAKEAWAYS

Similar to a conventional massage by a therapist, ROM can be increased by a handheld percussive massage treatment without having an effect on muscle strength.

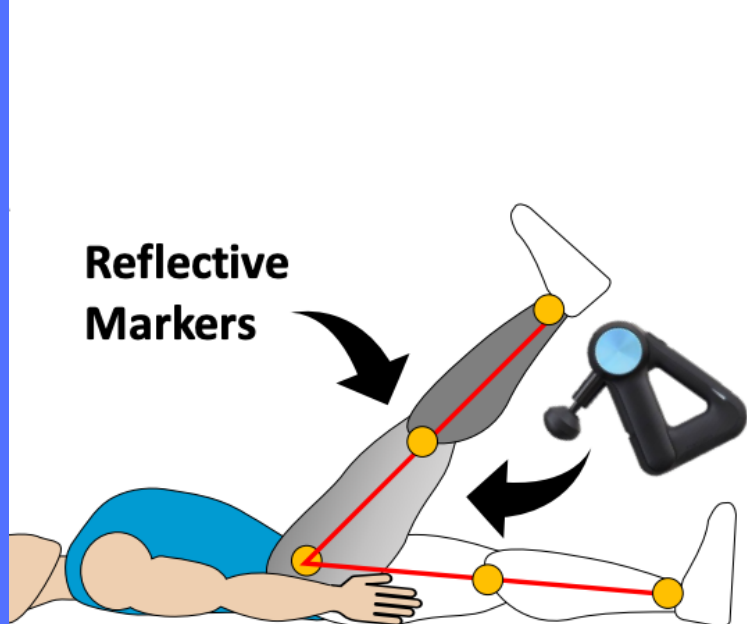
Including percussive massage treatment in a warm-up regimen could improve ankle Range Of Movement.

Follow this short-term improvement with exercises to make long-lasting change.

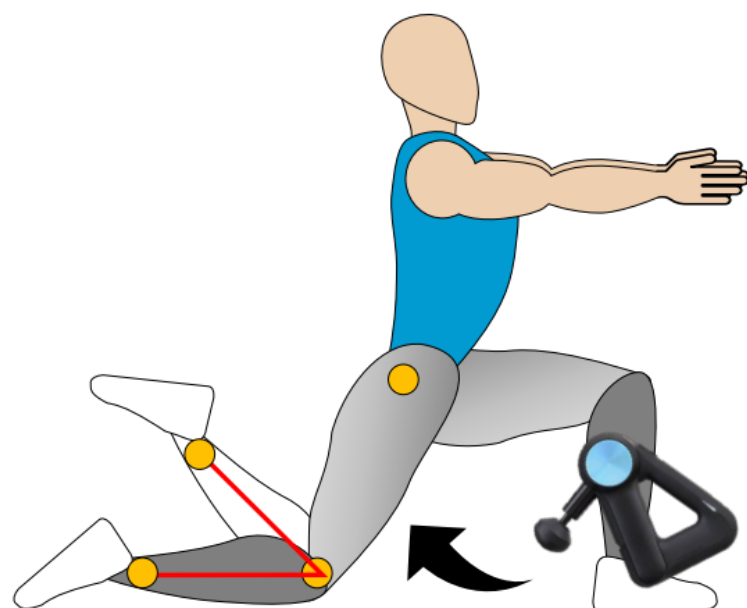
HIP AND KNEE RANGE OF MOVEMENT AFTER MASSAGE GUN TREATMENT

This study examined the immediate effects of a single percussive therapy treatment on active (unassisted) lower body ROM, as potential benefits are largely supported by anecdotes, and limited empirical evidence currently exists.

HIP FLEXION ROM TEST



KNEE FLEXION ROM TEST



KEY FINDINGS

24 male and female participants underwent a single 5-minute percussive therapy treatment on the hamstrings of their dominant limb.

An active ROM test and a 2D capture system measured hip and knee flexion ROM before and after treatment.

On the contralateral limb, ROM was assessed before and after 5 minutes of rest and served as the control condition (CON).

Significant improvement in hip flexion ROM were seen ~5 degrees
Control elicited no change.

Knee flexion ROM increased significantly ~2 degrees
No change was detected with control.

MAIN TAKEAWAYS

A single 5-minute percussive therapy treatment, slightly increased ROM of the hip and knee joints when compared to passive rest.

These effects are likely mediated through neural manipulations and acute changes in muscle tone.

ARE MASSAGE GUNS AN EFFECTIVE REHAB TOOL?

This review explored the current literature regarding the effect of muscle gun devices on range of motion, muscle activation, force output and the possibility of reducing perceived muscle soreness, as the popularity of muscle gun devices is rapidly growing, however the current research is unclear.



39 included studies were used in this literature review.

Handheld percussive massage devices are more **effective at increasing lower limb range of motion** compared to foam rolling and other self-myofascial protocols.

The use of handheld percussive massage devices directly after exercise on the main muscle groups challenged, can **reduce delayed onset muscle soreness**.

No significant increase in muscle activation or force output following the usage of a handheld percussive massage device was found.

MAIN TAKEAWAYS

The use of massage gun devices can be helpful as part of a warm-up to increase range of motion and reduce perceived muscle soreness, without negatively impacting muscle activation and force output.

Muscle guns can be a useful rehab tool, to increase range of motion and reduce perceived pain and muscle soreness.

GIVE US YOUR FEEDBACK!

MEMBERS

We are on a mission to make research more accessible, easier to interpret, and quicker to implement.

Help us by giving 1 minute of your time to leave feedback for us.

We would greatly appreciate any feedback you have, as it helps us continually improve!

[Leave Review](#)

